

## Afrotropical Asilidae (Diptera) 22. The genus *Scylaticus* Loew, 1858 (Stenopogoninae)

by

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### ABSTRACT

Species previously placed in *Scylaticus* Loew are considered. The genus is discussed and redefined with the result that only seven of the previously described species (excluding synonyms) are retained in the nominal genus (ie. *albofasciatus* Engel, 1932; *costalis* (Wiedemann, 1819); *engeli* Bromley, 1947; *laevinus* (Walker, 1849); *marginatus* Engel, 1932; *quadrifasciatus* Engel & Cuthbertson, 1934); *zonatus* Loew, 1858. Eight are transferred to the newly created genus *Connomyia* (*albipilus* (Becker, 1922); *argyropus* (Engel, 1932); *barkeri* (Bromley, 1947); *exquisitus* (Engel, 1932); *leoninus* (Engel, 1932); *lindneri* (Oldroyd, 1980); *punctatus* (Engel, 1932); *varipennis* (Ricardo, 1925)).

A new synonym is established (*S. xiphocerus* Bromley, 1952 = *costalis* (Wiedemann, 1819)), while 28 new species of *Scylaticus* are described (ie. *braunsi*; *bromleyi*; *bunohippus*; *callimus*; *camptus*; *ceratitus*; *chrysotus*; *cuthbertsoni*; *danus*; *entrachus*; *gongrocercus*; *gymnosternum*; *hadromedus*; *iota*; *irwini*; *loewi*; *melanus*; *midas*; *namibiensis*; *pardalotus*; *phaeus*; *ricardoae*; *thecarus*; *tigrinus*; *trophus*; *tyligmus*; *whiteheadi*; *zirconius*). Lectotype designations are made for *Dioctria costalis* Wiedemann, 1819 and *S. zonatus* Loew, 1858. A key for the separation of all presently recognised species (35) is provided. The relationships between Afrotropical representatives of *Scylaticus* and those of other zoogeographical regions are briefly discussed.

### INTRODUCTION

This paper comprises the fourth in a series planned to resolve various taxonomic problems associated with the stenopogonine genera lacking setose anatergites (see Londt 1990). The first in the series (Londt 1990) was a revision of *Pycnomerinx* Hull, the second (Londt 1992a) included revisions of *Empodiodes* Oldroyd, *Hynirhynchus* Lindner and *Lycostommyia* Oldroyd, while the third (Londt 1992b) contained the description of the monotypic genus *Bana* Londt. One of the larger and more problematic genera in the complex is *Scylaticus* Loew; in establishing the morphologically diagnostic features of this genus much of the confusion associated with the genera undergoing current reappraisal can be eliminated.

At the commencement of this study some 32 world species of *Scylaticus* were considered valid, the genus being known from four zoogeographical regions. The following is a complete list of these taxa (including previously accepted synonyms), drawn from catalogues (Lehr 1988, Martin & Papavero 1970, Oldroyd 1975, Oldroyd 1980) and subsequent publications (Artigas 1971 1974, Londt 1992a, Nagatomi 1983):

#### Oriental:

*degener* Schiner, 1868 – China (Hong Kong); Taiwan; Okinawa-hontô.

*indicus* Bromley, 1939 – India (Tinnevely Hills).

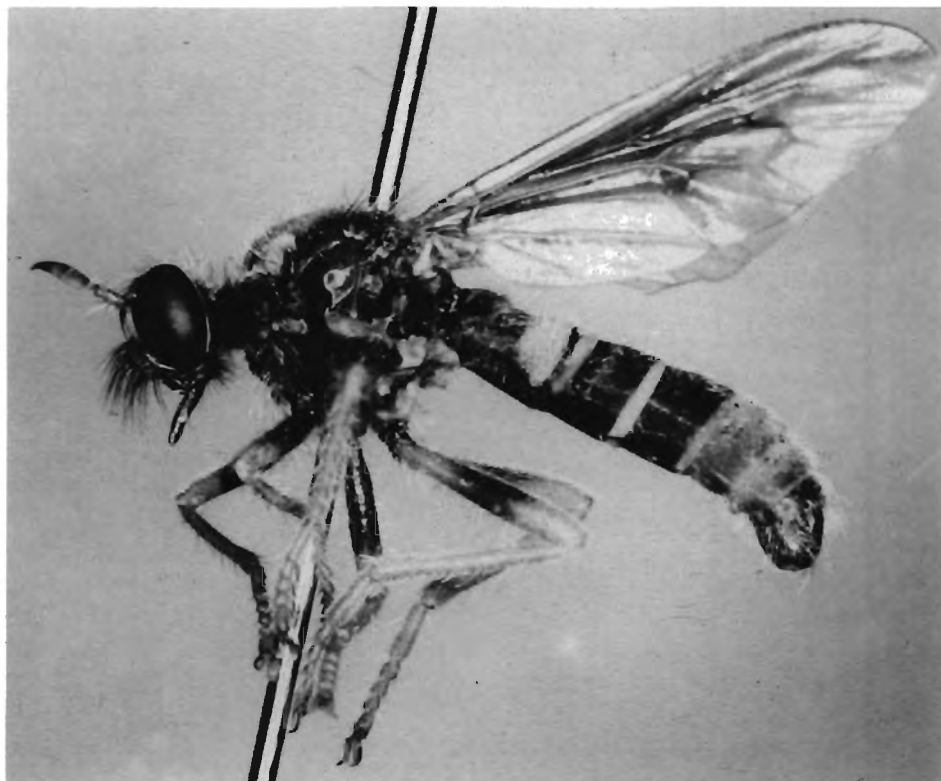


Fig. 1. *Scylaticus costalis* (Wiedemann, 1819). General habitus of ♂ (Roma Mission, Lesotho).

*lutescens* Hermann, 1914 – China (Shaowui, Chung An); Taiwan.

*sayano* Nagatomi, 1983 – South-West Islands of Iriomote-jima (Ohara, Otomi), Ishigaki-jima (Yoshino).

Palaeartic:

*elamiensis* Abbassian-Lintzen, 1964 – Iran (Dezful).

*miniatus* Becker, 1915 – Tunisia (Ain-Drahem), Egypt (Bug and Abu Seer in Mariut); Europe: Greece, Yugoslavia.

*palestinensis* Theodor, 1980 – Israel (Arad, Beer Sheva, Mamshit, Avedat, Susita, Gaza, Wadi Qelt).

*semizonatus* Becker, 1906 – Algeria (Oued N'Sa, Sahara).

Neotropical:

*carrascoi* Artigas, 1974 – Peru (Urubamba, Lucre, Juliaca); Chile (Visviri).

*chilensis* (Macquart, 1850) – Chile (various places in Coquimbo, O'Higgins and Santiago provinces).

*tricolor* (Philippi, 1865) – Chile.

*cruciger* Hermann, 1921 – Paraguay.

*cuneigaster* Artigas, 1970 – Chile (various places in Atacama province).

*distinguendus* Lynch Arribalzaga, 1881 – Argentina (Buenos Aires, Chacabuco).

*lugens* (Philippi, 1865) – Chile (various places in Santiago, Talca and Valparaiso provinces).

*nitidigaster* (Macquart, 1850) – Chile.

*ruficauda* Bigot, 1878 – Brazil (Amazonia).

Afrotropical:

*albipilus* Becker, 1922 – Sudan.

*albofasciatus* Engel, 1932 – Malaŵi.

*argyropus* Engel, 1932 – South Africa; Ethiopia.

*barkeri* Bromley, 1947 – Zimbabwe.

*costalis* Wiedemann, 1819 – South Africa; Lesotho, Zimbabwe.

*laticinctus* Loew, 1858 – South Africa.

*rufescens* Ricardo, 1900 – South Africa.

*nigrescens* Engel, 1932 (as var.) – Lesotho.

*engeli* Bromley, 1947 – South Africa.

*exquisitus* Engel, 1932 – Zimbabwe.

*laevinus* (Walker, 1849) – South Africa.

*leoninus* Engel, 1932 – South Africa.

*lindneri* Oldroyd, 1980 – Tanzania.

*engeli* Lindner, 1961 – Tanzania.

*marginatus* Engel, 1932 – South Africa.

*punctatus* Engel, 1932 – Zimbabwe.

*quadrifasciatus* Engel & Cuthbertson, 1934 – Zimbabwe.

*varipennis* Ricardo, 1925 – South Africa.

*xiphocerus* Bromley, 1952 – Lesotho.

*zonatus* Loew, 1858 – South Africa; Zimbabwe.

Although I have concentrated on the Afrotropical fauna, to which the genotype belongs, I was also able to see specimens of two Oriental species, *S. degener* and *S. sayano*, as well as the Palearctic *S. palestinensis* and Neotropical *S. chilensis* which have been donated to the Natal Museum. These specimens were useful in establishing the diagnostic characters of the genus and making preliminary suggestions regarding affinities within the group.

#### MATERIAL AND METHODS

Every effort was made to examine all previously recorded specimens, especially types, and as much other material as possible. Museums and collections which provided specimens for study are listed below, together with the standard abbreviations which have been used throughout this paper. The names of the people who kindly assisted me with loans are given in parentheses. My thanks are extended to all these people without whose help this study would not have been possible.

AMGS – Albany Museum, Grahamstown, South Africa (Dr F. W. Gess).

AUWN – Agricultural University Wageningen, Netherlands (Dr K. W. R. Zwart).

BMNH – The Natural History Museum, London, U. K. (Mr J. Chainey).

- DMSA – Durban Natural Science Museum, Durban, South Africa (Mr C. Quickelberge).
- NHMW – Naturhistorisches Museum Wien, Wien, Austria (Dr R. ContrerasLichtenberg).
- NHRS – Naturhistoriska Riksmuseet, Stockholm, Sweden (Dr P. Persson).
- NMBZ – National Museum, Bulawayo, Zimbabwe (Mrs R. Sithole).
- NMSA – Natal Museum, Pietermaritzburg, South Africa.
- OXUM – Hope Entomological Collections, University Museum, Oxford, U. K. (Dr J. McGavin).
- SAMC – South African Museum, Cape Town, South Africa (Dr H. Robertson).
- SANC – National Collection of Insects, Pretoria, South Africa (Dr M. W. Mansell).
- SMNS – Staatliches Museum für Naturkunde Stuttgart, Stuttgart, Germany (Dr H.-P. Tschorsnig).
- SMWN – State Museum, Windhoek, Namibia (Mr E. Marais).
- ZMHB – Zoologisches Museum, Berlin, Germany (Dr H. Schumann).
- ZMUC – Zoologisk Museum, Copenhagen, Denmark (Dr L. Lyneborg).
- ZSMC – Zoologische Staatssammlung, Munchen, Germany (Dr W. Schacht).

#### Preparation of specimens for study

In all instances specimens were dry-mounted on pins. Male genitalia were drawn with the aid of a drawing-tube attached to a Wild M5 stereomicroscope, after first removing the terminal segments of the abdomen and clearing them in hot potassium hydroxide. Genitalia so treated were stored temporarily in small plastic vials containing a mixture of ethanol and glycerine, until completion of the study when they were placed in sealed plastic tubes or mounted in Canada Balsam on small strips of transparent cellulose; each tube or cellulose strip was pinned below the appropriate specimen. Measurements made to establish body sizes and ratios are as described by Londt (1989).

#### Preparation of descriptions

Terminology is based largely on McAlpine (1981). Abbreviations for some structural features and macrosetae are elucidated in the first description only. Information provided under the heading 'Material examined' is divided into two sections 'Holotype' and 'Other' respectively, and is derived entirely from specimen labels; data given in square brackets are not found on the original labels. When citing label data of primary type specimens, the exact wording is given in inverted commas. In other instances the method of citation for dates of collection and map references has been standardised and may therefore not be exactly as found on specimen labels. Where co-ordinates are supplied by me, these follow immediately after the place name to which they refer. In commenting on distribution I refer to climatological regions (Fig. 210) of southern Africa. These have been adapted from Schultz (1965) and are useful when discussing primarily southern African asilid genera (see also Londt 1985).

Although male genitalia are rotated through 90°, either clockwise or anticlockwise, this rotation is ignored when referring to the various aspects of the genitalia (ie. the epandrium is always considered to be dorsally situated). Scale lines represent 1 mm unless otherwise indicated, and do not apply to wing illustrations as measurements of wings are provided in descriptions.

#### HISTORICAL PERSPECTIVE

The taxonomic history of Afrotropical *Scylaticus*, up until this study, can be briefly summarised as follows:

- Wiedemann (1819) – described *Dioctria costalis* from the Cape Peninsula of South Africa ('Prom. bon. sp.').
- Walker (1849) – described *Dasypogon laevinus* from South Africa.
- Loew (1858) – described *Scylaticus* on the basis of two South African species, *zonatus* (from 'Caffraria') and *laticinctus* (from 'Cap. B. Sp.').
- Loew (1860) – repeated his description of the genus. He included *zonatus* and *costalis* and synonymised *laticinctus* with the latter.
- Bigot (1879) – described *pantherinus* from Senegal.
- Ricardo (1900) – described *rufescens* from South Africa.
- Bezzi (1906) – merely listed four valid species, *costalis* (with *laticinctus* as synonym), *pantherinus*, *rufescens* and *zonatus*.
- Hermann (1907) – recorded *rufescens* from Lichtenburg, Transvaal, South Africa.
- Kertész (1909) – catalogued all known species, listing *costalis* (*laticinctus* as synonym), *pantherinus*, *rufescens* and *zonatus* from the Afrotropics.
- Becker (1922) – described *albipilus* from Sudan.
- Ricardo (1925) – described *varipennis* from Zululand, South Africa.
- Engel (1930) – designated *zonatus* as type species of *Scylaticus*.
- Engel (1932) – described *albofasciatus* (from Malawi), *argyropus* (from South Africa and Ethiopia), *nigrescens* (from Lesotho – as a variety of *costalis*), *exquisitus* and *punctatus* (from Zimbabwe) and *leoninus* and *marginatus* (from South Africa). He provided a key to all forms known to him (11), drawing attention to the fact that the genus can be divided into two distinct groups. He also placed *rufescens* as a variety of *costalis*.
- Curran (1934) – keyed the 'known Ethiopian species' [only 5], providing new records for *zonatus* (South Africa) and *costalis* (Zimbabwe).
- Engel & Cuthbertson (1934) – described *quadrifasciatus* from Zimbabwe.
- Engel & Cuthbertson (1939) – recorded *punctatus* material from Zimbabwe.
- Bromley (1947) – described *barkeri* (from Zimbabwe) and *engeli* (from South Africa).
- Bromley (1952) – described *xiphocerus* from Lesotho.
- Lindner (1961) – described *engeli* [a homonym] from Tanzania.
- Hull (1962) – provided a key to world genera including *Scylaticus*. He redescribed the genus, including 15 Afrotropical species as well as a number of species from other zoogeographical regions.
- Hull (1967) – provided new records for *leoninus* (Lesotho) and *costalis* (South Africa), and listed material of an unidentified species from Lesotho.

- Oldroyd (1970) – briefly mentioned material from Katanga, Zaïre, but did not describe it.
- Oldroyd (1974) – provided a key to identify southern African asilid genera, including *Scylaticus*. He declined to review the genus on the grounds that it contained many undescribed species.
- Oldroyd (1980) – catalogued all Afrotropical species (17), providing the new name *lindneri* for Lindner's 1961 *engeli* [homonym].
- Londt (1992a) – placed *pantherinus*, from Senegal, in *Hynirhynchus*.

## TAXONOMY

### Genus *Scylaticus* Loew

*Scylaticus* Loew, 1858c: 349 [1860c: 156]. Type species: *Scylaticus zonatus* Loew, 1858, by designation of Engel (1930: 369).

Although the general descriptions of *Scylaticus* provided by various authors, including Hull (1962) and more recently Theodor (1980), are useful, my revisionary studies reveal the need to redefine the genus.

Engel (1932: 276) was aware that species could be divided into two distinct groups on the basis of differences in the development of face and mystax. He stated that 'the first group contains species with a rather plain face, of which the lower part is somewhat produced, but without forming a facial hump, while the mystax does not reach to base of antennae', the condition found in the type species, *zonatus*; while 'in the second group the face is also plain but not produced in the lower part, so that, when seen in profile, the outline of the face follows strictly that of the eye, while the mystax reaches to base of antennae'. My studies reveal that there are a number of other characters, including important male genital features, which strongly support the division of the genus into two separate taxa.

*Scylaticus* is here redefined by possession of the following combination of character states:

1. Epandrium very deeply incised mid-dorsally, resulting in two almost separate lobes which are very narrowly connected at their posterior margins (Fig. 64).
2. Gonocoxite with dorsal, subapical, finger-like lobe (Fig. 63).
3. Face plain, with slight ventral gibbosity (Fig. 2).
4. Mystax not extending to antennal bases (in most instances occupies approximately lower half of face only) (Fig. 2). [Two species, *thecarus* and *tigrinus*, are exceptional in that they have a few small setae between mystax and antennal bases; in all other respects they agree with more typical species.]
5. Proboscis straight (Fig. 61) or rarely slightly arched (Fig. 2).
6. Palpus 2-segmented with terminal pit-like opening.
7. Wing with cell  $m_3$  widely open at margin (Fig. 62), rarely narrowly open or closed at margin, but never closed before margin.
8. Wing with posterior cubital cell (cup) narrowly open (Fig. 62) or rarely closed at margin, but never closed before margin.

While it appears that most of the non-Afrotropical species of *Scylaticus* are adequately encompassed by the features listed above, there are two exceptions known to me: (i) *S. carrascoi* Artigas – in which the mystax extends to just below antennal bases, and the gonocoxite lacks a dorsal finger-like lobe (Artigas 1974: 8 Figs 1–2); and (ii) *S. cuneigaster* Artigas whose gonocoxite does not appear to conform in that the dorsal process is not shown by Artigas (1970: 225 Fig. 153).

Of the Afrotropical species listed above, those with the combination of character states redefining *Scylaticus* are shown on the left of the table below (new synonyms ignored) while those that are excluded are listed on the right.

Included in <i>Scylaticus</i>	Excluded from <i>Scylaticus</i>
<i>albofasciatus</i> Engel	<i>albipilus</i> Becker
<i>costalis</i> Wiedemann	<i>argyropus</i> Engel
<i>engeli</i> Bromley	<i>barkeri</i> Bromley
<i>laevinus</i> Walker	<i>exquisitus</i> Engel
<i>marginatus</i> Engel	<i>leoninus</i> Engel
<i>quadrifasciatus</i> Engel & Cuthbertson	<i>lindneri</i> Oldroyd
<i>xiphocerus</i> Bromley	<i>punctatus</i> Engel
<i>zonatus</i> Loew	<i>varipennis</i> Ricardo

The present generic revision includes those species listed on the left, and other newly discovered species conforming to the new definition of *Scylaticus*. The species listed on the right are here placed in a new genus pending their revision (in progress).

#### Genus *Connomyia* gen. n.

Type species: *Scylaticus leoninus* Engel, 1932.

Etymology: Gr. *konnos* = beard; *myia* = fly. Refers to the extensive mystax covering most of the face.

Although *Connomyia* has not yet been revised, the following characteristics are probably adequate to differentiate it from *Scylaticus*:

1. Epandrium shallowly, if at all, incised mid-dorsally; not clearly forming two almost separate lobes.
2. Gonocoxite lacking dorsal, subapical, finger-like lobe.
3. Face plain, profile following that of the eye.
4. Mystax extending to antennal bases.
5. Proboscis straight like *Scylaticus*, but never bow-shaped.
6. Wing with cells  $m_3$  and cup narrowly open at margin, closed at margin, or closed before margin and joined to it with a short stalk (ie. there is some intrageneric variation).

The following **new combinations** are here established – *Connomyia albipillus* (Becker, 1922), *C. argyropus* (Engel, 1932), *C. barkeri* (Bromley, 1947), *C. exquisitus* (Engel, 1932), *C. leoninus* (Engel, 1932), *C. lindneri* (Oldroyd, 1980), *C. punctatus* (Engel, 1932), *C. varipennis* (Ricardo, 1925).

Key to Afrotropical *Scylaticus* species based primarily on adult males.

- 1 Small species (wing length shorter than 3,5 mm) with mystax confined to a narrow strip along lower facial margin (occupies about 10% of facial depth in lateral view); ♂ genitalia as in Figs 110–112 ..... **iota** sp. n. (p. 139)
- Larger species (wing length greater than 4,0 mm) with mystax occupying at least 30% of facial depth in lateral view ..... 2
- 2 Antennal flagellomere smoothly elongate (Fig. 2), lacking posteroventral swelling; microsegment well-developed and situated apically ..... 5
- Antennal flagellomere with irregular outline and with posteroventral swelling (Fig. 115); microsegment tiny and situated subapically ..... 3
- 3 Femora uniformly dark red-brown to black; ♂ genitalia as in Figs 117–119 ..... **irwini** sp. n. (p. 141)
- Femora mostly yellowish ..... 4
- 4 Mystacial macrosetae bright yellow; ♂ genitalia as in Figs 201–203 ..... **zirconius** sp. n. (p. 172)
- Mystax white; ♂ genitalia as in Figs 191–193) ..... **tyligmus** sp. n. (p. 168)
- 5 Humeral callus entirely or partly yellow-brown or orange (strong pruinescence may tend to mask paler colour in a few instances) ..... 6
- Humeral callus entirely blackish ..... 19
- 6 Anterior part of wing dark brownish-stained and contrasting with posterior unstained part (discal cell membrane with anterior margin stained) ..... 7
- Wing fairly uniformly pale yellow or brownish-stained or entirely transparent ..... 10
- 7 Tarsi and distal parts of tibiae entirely dark red-brown; ♂ genitalia as in Figs 127–129 ..... **loewi** sp. n. (p. 145)
- Tarsi and tibiae uniformly yellow ..... 8
- 8 Palpi usually brown-yellow, contrasting strongly with dark red-brown head; in ventral view hind margin of hypandrium smoothly curved and lacking mediodistal lobes or indentations; ♂ genitalia as in Figs 31–33 ..... **bunohippus** sp. n. (p. 112)
- Palpi dark red-brown and not contrasting strongly with colour of head; ♂ hypandrium with mediodistal lobes or indentations ..... 9
- 9 Genitalia as in Figs 63–71; hypandrium almost as long as wide, with a pair of mediodistal seta-covered lobes, and extending distally almost as far as gonocoxites, largely hiding phallus in ventral view ..... **costalis** (Wiedemann, 1819) (p. 121)
- Genitalia as in Figs 15–17; hypandrium much shorter than wide, distal margin deeply incised medially, extending only slightly distally, leaving phallus visible in ventral view ..... **braunsi** sp. n. (p. 107)
- 10 Prothoracic coxae with dark red-brown to black setae; femora not obviously striped longitudinally ..... 11
- Prothoracic coxae with white or pale yellow setae; femora yellow and dark red-brown striped longitudinally ..... 12

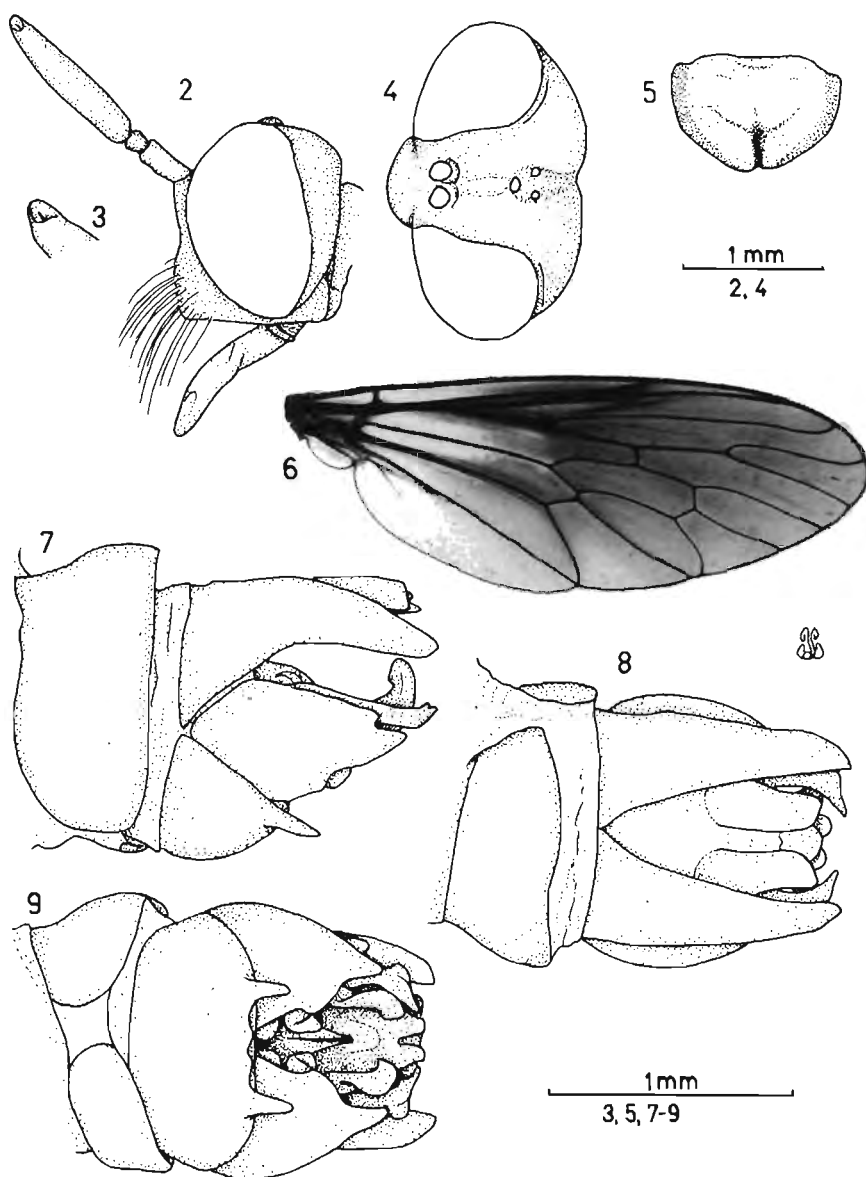


- 11 Thoracic pleura and pronotum uniformly black; femora slender, yellow-brown; genitalia as in Figs 135–137 ..... **melanus** sp. n. (p. 149)
- Thoracic pleura and pronotum dark red-brown with paler orange markings; femora stoutish, dark red-brown; genitalia as in Figs 180–184 ..... **tigrinus** sp. n. (p. 164)
- 12 Antennal flagellum long (more than 7 times length of scape), strikingly laterally compressed and ribbon-like, and often strongly curved and horn-like (Fig. 48); ♂ genitalia as in Figs 50–52 ..... **ceratitus** sp. n. (p. 118)
- Antennal flagellum shorter (less than 4 times length of scape), somewhat laterally compressed, but rather spindle-shaped and at most slightly curved ..... 13
- 13 Mystax dark red-brown; ventral aspect of hind femur dark red-brown; ♂ genitalia as in Figs 173–175 ..... **ricardoae** sp. n. (p. 161)
- Mystax pale yellow; ventral aspect of hind femur yellow-brown ..... 14
- 14 Prosternum entirely apruinose, appearing shiny black; ♂ genitalia as in Figs 101–103 ..... **gymnosternum** sp. n. (p. 135)
- Prosternum at least partly pruinose ..... 15
- 15 Anepisternum virtually asetose (few short fine setae only); ♂ genitalia as in Figs 37–39 ..... **callimus** sp. n. (p. 114)
- Anepisternum with obvious (sometimes long) setae ..... 16
- 16 Hypandrium with pair of distal finger-like processes (eg. Fig. 93) ..... 17
- Hypandrium lacking pair of finger-like processes distally (eg. Fig. 143) ... 18
- 17 Mesonotum with 3 black longitudinal stripes and covered with many fine, longish, yellow setae; cervical sclerite orange-brown; ♂ genitalia as in Figs 91–93 ..... **entrichus** sp. n. (p. 131)
- Mesonotum uniformly black (lacking longitudinal stripes on red-brown ground colour) and covered with fine yellow setae; cervical sclerite dark red-brown; ♂ genitalia as in Figs 80–82 ..... **danus** sp. n. (p. 127)
- 18 Thorax and abdomen entirely covered with gold pruinescence; ♂ genitalia as in Figs 141–143 ..... **midas** sp. n. (p. 151)
- Thorax and abdomen blackish, patterned with silver pruinescence; ♂ genitalia as in Figs 153–156 ..... **pardalotus** sp. n. (p. 155)
- 19 Mystax and katatergal setae dark red-brown to black ..... 20
- Mystax and katatergal setae pale yellowish ..... 21
- 20 Hypandrium distally projected as single median lobe (Fig. 160); vertex with black setae bordering eyes shorter than scape and pedicel combined; mid and hind coxae uniformly black; ♂ genitalia as in Figs 158–160 ..... **phaeus** sp. n. (p. 157)
- Hypandrium distally with pair of finger-like processes (Fig. 131); vertex with black setae bordering eyes longer than scape and pedicel combined; mid and hind coxae extensively orange-brown; ♂ genitalia as in Figs 131–133 ..... **marginatus** Engel, 1932 (p. 147)

21	Hind femur partly or entirely yellow-brown .....	22
–	Hind femur entirely dark red-brown to black .....	27
22	Femora entirely brownish yellow; ♂ genitalia as in Figs 122–124 .....	
	<b>laevinus</b> (Walker, 1849) (p. 143)	
–	Femora extensively dark red-brown .....	23
23	Femora striped longitudinally along entire length .....	24
–	Femora not so striped .....	25
24	Male terminalia not markedly swollen; hypandrium with median, distally projecting lobe (Fig. 75); mesonotal setae pale yellow; genitalia as in Figs 73–75 .....	<b>cuthbertsoni</b> sp. n. (p. 126)
–	Male terminalia with swollen appearance; hypandrium bilobed with distal margin incised medially (Fig. 98); mesonotum with a number of brown setae; genitalia as in Figs 96–98 .....	<b>gongrocercus</b> sp. n. (p. 133)
25	Femora largely dark red-brown except for yellow-brown area distally on posterior face .....	26
–	Fore and mid femora brown-yellow proximally, distally dark red-brown; ♂ genitalia as in Figs 86–88 .....	<b>engeli</b> Bromley, 1947 (p. 129)
26	Antennal setae dark red-brown; ♂ genitalia as in Figs 177–179 .....	<b>thecarus</b> sp. n. (p. 163)
–	Antennal setae pale yellow; ♂ genitalia as in Figs 204–209 .....	<b>zonatus</b> Loew, 1858 (p. 173)
27	Proboscis gently downcurved (Fig. 2) .....	28
–	Proboscis straight .....	29
28	Wings blackish stained (except for small areas basally); tergum 4 lacking obvious silver pruinose distal band; genitalia as in Figs 7–9 .....	<b>albofasciatus</b> Engel, 1932 (p. 105)
–	Wings not blackish stained; tergum 4 with silver pruinose distal band as on more proximal segments; genitalia as in Figs 44–46 .....	<b>camptus</b> sp. n. (p. 116)
29	Hind tibiae proximally yellowish .....	30
–	Hind tibiae entirely dark red-brown to black .....	32
30	Abdomen covered with shiny orange-yellow setae; hind margins of terga broadly gold pruinose; ♂ genitalia as in Figs 187–189 .....	<b>trophus</b> sp. n. (p. 166)
–	Abdomen with white setae; terga fine silver pruinose, hind margins lacking broad pruinose bands .....	31
31	Mystax occupying approximately half of facial depth; genitalia as in Figs 207–209 .....	<b>zonatus</b> Loew, 1858 (p. 173)
–	Mystax extending over some 80% of facial depth; genitalia as in Figs 105–107 .....	<b>hadromedus</b> sp. n. (p. 137)

- Thorax:** Mesonotum (msn) including postpronotal lobes (pprn lb) dark red-brown to black; finely silver pruinose. Macrosetae: 3 black notopleurals (npl); 1 black supra-alar (spal) plus weaker setae; 3 white postalars (pal); acrostichals (acr) undifferentiated; *ca.* 5 pairs black and white dorsocentrals (dc) postsuturally. Scutellum (sctl) with *ca.* 10 white marginal macrosetae; disc with few white setae

only. Pleura uniformly dark red-brown; katatergite (ktg) with white macrosetae. Prosternum (prst) (Fig. 5) unremarkable. Wing (Fig. 6):  $6,5 \times 2,7$  mm (relatively broad); cells  $m_3$  and cup open; membrane blackish stained with few small transparent areas basally; microtrichia evenly distributed over wing surface. Halter (hlt): Yellow. Legs: Uniformly dark red-brown to black; metathoracic



Figs 2-9. *Scylaticus albofasciatus* Engel, 1932. 2-4. Head. 2. Lateral. 3. Tip of left antenna. 4. Dorsal. 5. Prosternum. 6. Wing. 7-9. Male genitalia. 7. Lateral. 8. Dorsal. 9. Ventral. (Malaŵi, Likabula river valley  $\sigma$ ).

femur (fem 3) length 3,0 mm, setae white; prothoracic coxae (cx 1) with white setae.

**Abdomen:** Dark red-brown to black; silver pruinose hind margins (T4 almost lacking silver pruinescence); setation white. Genitalia (Figs 7–9): rotated 90° clockwise; epandrial lobes (epandl) straight; hypandrium (hypd) about twice as broad as long, with two short finger-like distal projections; gonocoxite (goncx) with short bump-like dorsal subapical process.

**Female:** Similar to ♂ although abdomen may have reddish markings laterally.

**Material examined:**

**Holotype:** ♂, MALAWI: 'Mt Mlanje [15°58'S:35°38'E], / Nyasaland, / 10.xii.1913 / S. A. Neave' 'Sammlung / F. Hermann' 'Type von / *albofasciatus* / n. sp.' 'Ann. Transvaal / Mus XIV / 278 (1932)' '*Scylaticus* ♂ / *albofasciatus* Eng.' (ZSMC).

**Other:** MALAWI: 1 ♂ 2 ♀, Nkopola Hill [14°20'S:35°10'E], ii.1976, CoD [C. Dudley] M9068, 9070 9071 respectively (NMSA); 1 ♀ **paratype**, same data as holotype 25.xi.1912 (ZSMC); 1 ♂ [labelled by BMNH as possibly the holotype – but not so accepted], Mt Mlanje, 10.xii.1913, S. A. Neave (BMNH); 1 ♂ 1 ♀ 1 ?, *do.* but 7.xi.1913 [♂] 4.xii.1914 [♀] 14.xi.1912 [?] (BMNH); 4 ♂ 1 ♀, Mulanje Mnt., Likabula river valley, 1535Dc, 28 – 30.xi.1980, 1000m, Stuckenberg & Londt, Riverine *Brachystegia* woodland (NMSA); 1 ♀, Zomba [15°23'S:35°20'E], 21.i.1976, Mkwinda, forest edges, M9580 (NMSA). ZAMBIA: 1 ♀, Kangili [8°30'S:29°44'E] Mweruwanta, 7.xii.1953, H. D. Brown (BMNH). ZIMBABWE: 1 ♀, Chipinda Pools [21°18'S:31°56'E], Lower Lundi R., 19.xi.1960, R. Goodier, 1452, Tsetse Fly Ops. S. Rhodesia (BMNH).

**Distribution** (Tables 2–3): Northern Zambia, southern Malawi, and south-eastern Zimbabwe.

**Habits:** Adults active in mid summer (Table 1) in a summer rainfall area. Likabula material was collected in grassy areas adjacent to a plantation.

**Relationships:** Appears to be most closely similar to *campus*. The species may be more distantly related to members of the *costalis* species-group.

### ***Scylaticus braunsi* sp. n.**

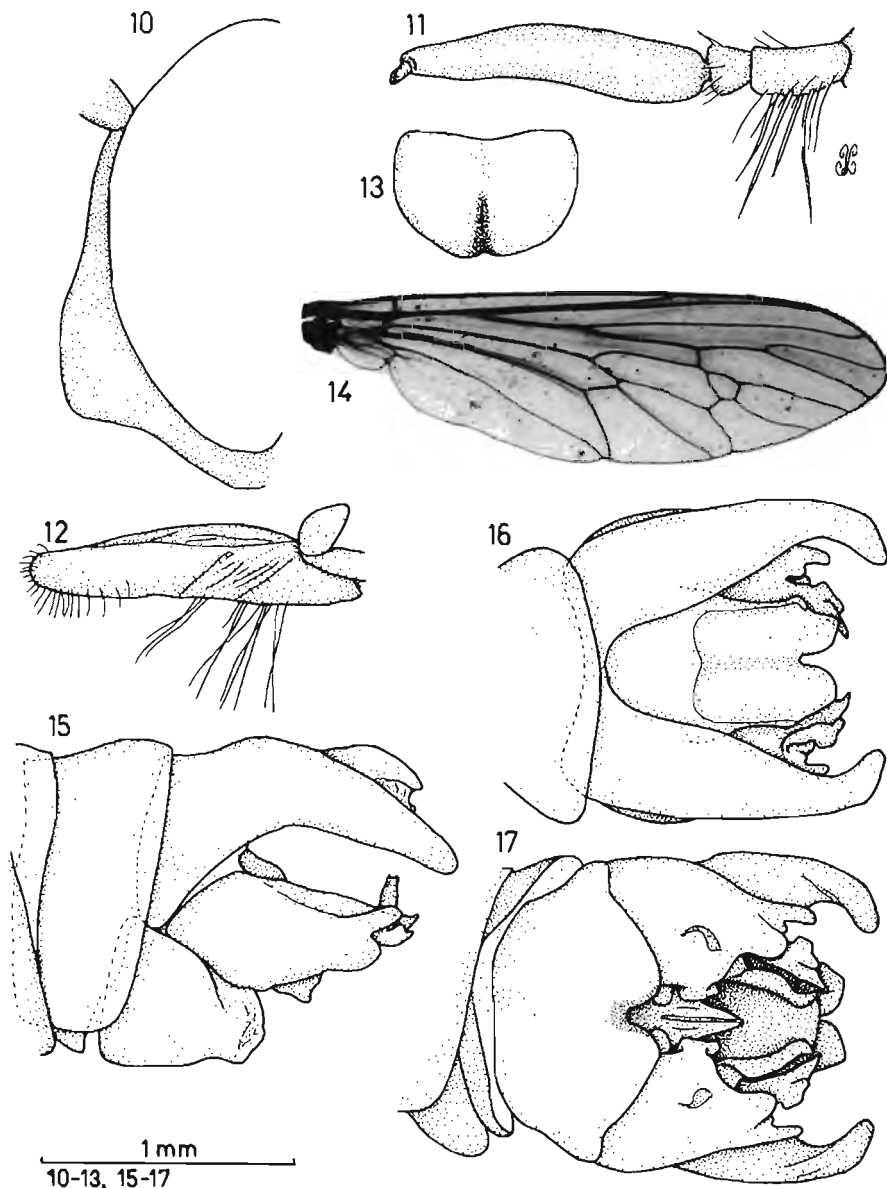
Figs 10–17

**Etymology:** Named after Dr Brauns, whose collecting activities in the Willowmore area added substantially to our knowledge of southern African Asilidae.

**Description:** Based on holotype ♂.

**Head** (Figs 10–12): Dark red-brown, silver pruinose. Antenna (Fig. 11) dark red-brown to black; setae dark red-brown; proportional lengths of segments – 1 : 0,5 : 3,0 : 0,3; microsegment cylindrical with terminal pit-enclosed seta. Width of eye: width of face ratio 1,3 : 1. Mystax dark red-brown; occupying *ca.* 50% of facial depth on moderate gibbosity (Fig. 10). Occipital setae mostly dark red-brown. Palpus blackish. Proboscis (Fig. 12) dark red-brown; straight.

**Thorax:** Msn dark red-brown to black, ppn lb and posterior region yellowish; silver pruinose. Macrosetae dark red-brown: 4 npl; 3 spal; 3 pal; acr undifferentiated; *ca.* 6 pairs dc, mostly postsuturally. Sctl with *ca.* 4 poorly developed dark red-brown marginal macrosetae, plus a few smaller setae; disc bare. Pleura uniformly dark red-brown; ktg macrosetae white. Prst (Fig. 13)



Figs 10-17. *Scylaticus braunsi* sp. n. 10-12. Head. 10. Lateral view of face. 11. Left antenna. 12. Proboscis. 13. Prosternum. 14. Wing. 15-17. Male genitalia. 15. Lateral. 16. Dorsal. 17. Ventral. (Georgida ♂ holotype & paratype).

unremarkable. Wing (Fig. 14):  $7,2 \times 2,6$  mm; cell  $m_3$  widely open, cup narrowly open; membrane brown stained anteriorly; microtrichia evenly distributed over wing surface. Hlt: Pale yellow-brown. Legs: Brown-yellow; femora with dark red-brown bands (best developed on fem 1, and least developed on fem 3); fem 3 length 3,5 mm, setae white; cx 1 setae white.

**Abdomen:** Dark red-brown with yellow tergal hind margins; silver pruinose, especially laterally on T2 and T3; setation longish white anteriorly, shorter white and dark red-brown posteriorly. Genitalia (Figs 15–17 paratype): rotated 90° clockwise; epanth bent gently inward distally; hypd about twice as broad as long, rather truncated appearance in lateral view (Fig. 15), deeply invaginated distal margin in ventral view (Fig. 17); goncx with moderately well-developed finger-like dorsal subapical process.

Paratypes: 1 ♂ 3 ♀ similar to holotype.

Material examined:

Holotype: ♂, SOUTH AFRICA: 'Georgida / Capland / Willowmore [33°17'S: 23°30'E] / Nov 1 1920 / Dr. Brauns' (NMSA – Type No. 438).

Other (NMSA): SOUTH AFRICA: *Cape Province*: 1 ♂ 2 ♀ **paratypes**, same data as holotype; 1 ♀ **paratype**, Montague [= Montagu – 33°47'S:20°07'E], x.1941, G. van Son.

Distribution (Tables 2–3): Little & Great Karoo climatic region of southern Africa.

Habits: Adults apparently active in early summer (Table 1) in an area experiencing predominantly winter rainfall.

Relationships: A member of the *costalis* species-group together with *costalis*, *bunohippus* and *loewi*.

### ***Scylaticus bromleyi* sp. n.**

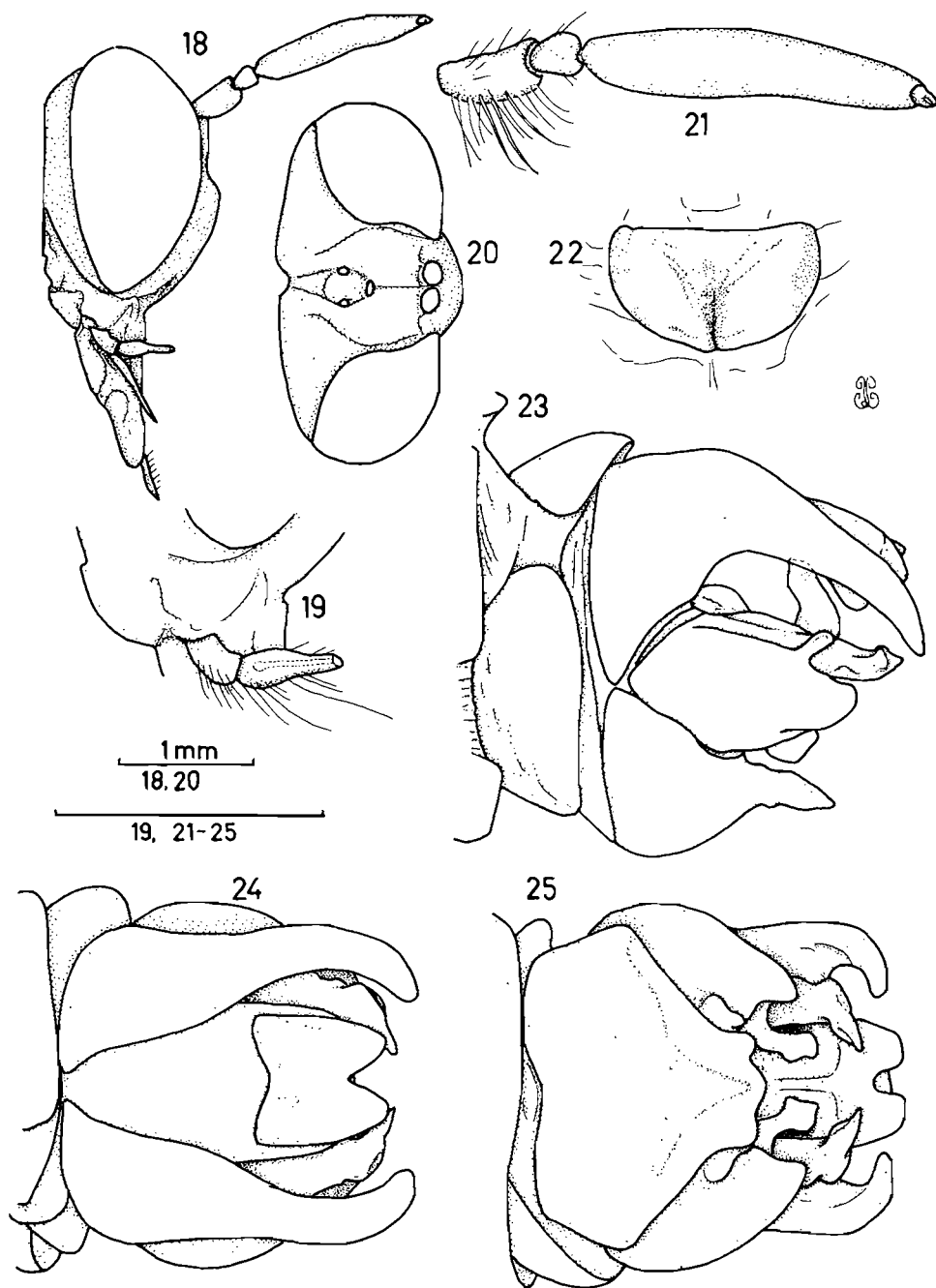
Figs 18–25, 211

Etymology: Named after Stanley Bromley in recognition of his contribution to our knowledge of southern African *Scylaticus*.

Description: Based on holotype ♂ (topotypic ♂ paratype illustrated).

**Head** (Figs 18–21): Dark red-brown, silver pruinose. Antenna (Fig. 21) dark red-brown; setae pale yellow-white; proportional lengths of segments – 1 : 0,5 : 3,5 : 0,3; microsegment subcylindrical with terminal pit-enclosed seta. Width of eye: width of face ratio 1,4 : 1. Mystax pale yellow-white; occupying ca. 60% of facial depth on moderate gibbosity (Fig. 18). Palpus (Fig. 19) dark red-brown. Proboscis (Fig. 18) dark red-brown; straight.

**Thorax:** Msn uniformly dark red-brown, including pprn lb and posterior region; silver pruinose laterally and medially. Macrosetae pale yellow: 4 npl; 5 spal plus fine setae; 6 pal plus fine setae; acr undifferentiated; ca. 7 pairs dc, mostly postsuturally. Sctl with ca. 10 pale yellow marginal macrosetae plus a few smaller setae; disc bare. Pleura uniformly dark red-brown; silver-gold pruinose; ktg macrosetae pale yellow-white. Prst (Fig. 22) unremarkable. Wing:  $5,3 \times 2,2$  mm;



Figs 18-25. *Scylaticus bromleyi* sp. n. 18-21. Head. 18. Lateral. 19. Detail of right palpus. 20. Dorsal. 21. Right antenna. 22. Prosternum. 23-25. Male genitalia. 23. Lateral. 24. Dorsal. 25. Ventral. (Roma Mission paratype ♂).



cell  $m_3$  widely open, cup narrowly open; membrane unstained; microtrichia evenly distributed over wing surface except for few, small, bare, basal areas. Hlt: Yellow-brown. Legs: Uniformly dark red-brown; fem 3 length 3,0 mm, setae pale yellow-white; cx 1 setae white.

*Abdomen*: Dark red-brown with yellow-orange hind tergal margins; T1 and anterior part of T2 clearly silver pruinose, other parts with shiny appearance; setation longish yellow-white, especially anterolaterally. Genitalia (Figs 23–25 paratype): rotated 90° anticlockwise; epanth appear separated basally, bent gently inward distally; hypd broader than long, projecting distally in lateral view (Fig. 23), median projection with trilobed appearance in ventral view (Fig. 25); goncx with moderately developed, shortish, dorsal subapical process.

Paratypes: 16 ♂ 11 ♀ similar to holotype. ♀: Legs extensively brown-yellow, femora often dark red-brown proximally; a few individuals have ppri lb brown-yellow (contrasting with rest of mesonotum) – especially Naboomspruit ♀.

Material examined:

Holotype: ♂, LESOTHO: 'Roma Mission [29°27'S:27°44'E] / Maseru District / Basutoland / B. & P. Stuckenberg / 4–13 Jan. 1963, Valley floor / Old lands / 5500 ft' (NMSA – Type No. 439).

Other (NMSA unless otherwise indicated): LESOTHO: 2 ♂ 1 ♀, Tebetebeng [Mission – 29°08'S:27°48'E] Mill, 13.xii.1964, C. Jacot-Guillarmod (AMGS); 3 ♂ 10 ♀, Mamathes [29°08'S:27°51'E], various dates including 27.xii.1946 21 & 27.xii.1947 1.i.1948 26.xii.1950 14.1.1951, C. Jacot-Guillarmod (AMGS); 1 ♂ 1 ♀, same data but 15.i.1950, D. Deenik (AMGS); 1 ♂, Teyateyaneng [29°09'S:27°44'E], 19.xii.1964, D. J. Brothers (AMGS); 1 ♀ **paratype**, Maseru District, Bushmans Pass [29°26'S:27°51'E], Maloti Mountains, 2125–2250 m., 8–14.i.1963, B. & P. Stuckenberg; 8 ♂ 6 ♀ **paratypes**, same data as holotype. SOUTH AFRICA: *Cape Province*: 4 ♂ 3 ♀ **paratypes**, Aliwal North [30°42'S:26°42'E], xii.1923, R. E. Turner (BMNH). *Orange Free State*: 1 ♂, Senekal [28°19'S:27°36'E], 22.i.1965, D. J. Brothers (AMGS); 2 ♂ 1 ♀, 10 km N of Aberfeldy, Somerby farm, 2828Bb, 27.xii.1982, R. Miller & P. Stabbins, empoundment; 1 ♂ **paratype**, Clarens 28.31S 28.25E, 20–26.ii.1980, W. A. Harrop (SANC). *Transvaal*: 1 ♂ **paratype**, Entabeni For. Station, Zoutpansberg Range, 2230CC, i.1975, Stuckenberg, grassland; 1 ♂ 1 ♀ **paratypes**, Mosdene, Naboomspruit [24°31'S:28°43'E], 2.xii.1976 [♂] 5.xii.1976 [♀], Nat. Museum S. Rhodesia, Falc Coll Nat Mus Exp (NMBZ); 1 ♂ **paratype**, Val. [26°48'S:28°56'E], 7.i.43, A. L. Capener.

Distribution (Fig. 211 Tables 2–3): Highveld, South & North Steppe, and Northern Transvaal climatic regions of South Africa and Lesotho.

Habits: Adults active during mid summer (Table 1) in summer rainfall areas of South Africa.

Relationships: Is unique in that the species does not appear to belong to any of the identified species-groups.

**Scylaticus bunohippus** sp. n.

Figs 26–33

**Etymology:** Gr. *bounos* = hill + *hippos* = horse. Refers to the type locality of Mountain Zebra National Park.

**Description:** Based on holotype ♂.

**Head** (Figs 26–28): Dark red-brown to black; silver pruinose. Antenna (Fig. 27) with scape and pedicel orange, flagellum dark red-brown; setae black; proportional lengths of segments – 1 : 0,5 : 3,0 : 0,3; microsegment cylindrical with terminal pit-enclosed seta. Width of eye: width of face ratio 1,5 : 1. Mystax black; occupying *ca.* 40% of facial depth on slight gibbosity (Fig. 26). Palpus (Fig. 28) orange. Proboscis (Fig. 28) dark red-brown; straight.

**Thorax:** Msn uniformly dark red-brown to black, pprn lb and posterior region orange; fine silver pruinose. Macrosetae: 5–7 black and orange npl; 4. orange spal; 2 orange pal; acr undifferentiated; *ca.* 9 pairs black and orange dc, mostly postsuturally. Sctl with *ca.* 6 black and orange marginal macrosetae plus a few smaller setae; disc bare. Pleura uniformly dark red-brown to black; silver pruinose; ktg macrosetae white. Prst (Fig. 29) unremarkable. Wing (Fig. 30): 7,2 × 2,5 mm; cell  $m_3$  widely open, cup narrowly open; membrane brown stained anteriorly; microtrichia evenly distributed over wing surface except for few, small, bare, basal areas. Hlt: Yellow knob, dark brown stalk. Legs: Orange, femora largely dark red-brown; fem 3 length 3,6 mm, setae longish white (few dark red-brown distally); cx 1 setae white.

**Abdomen:** Dark red-brown with brown-orange hind tergal margins; silver pruinose, especially laterally on T2 and T3; setation longish white, especially anterolaterally. Genitalia (Figs 31–33): rotated 90° anticlockwise; epandl bent slightly inward distally; hypd broader than long, hardly projecting distally in lateral view (Fig. 31); goncx with well-developed dorsal subapical process.

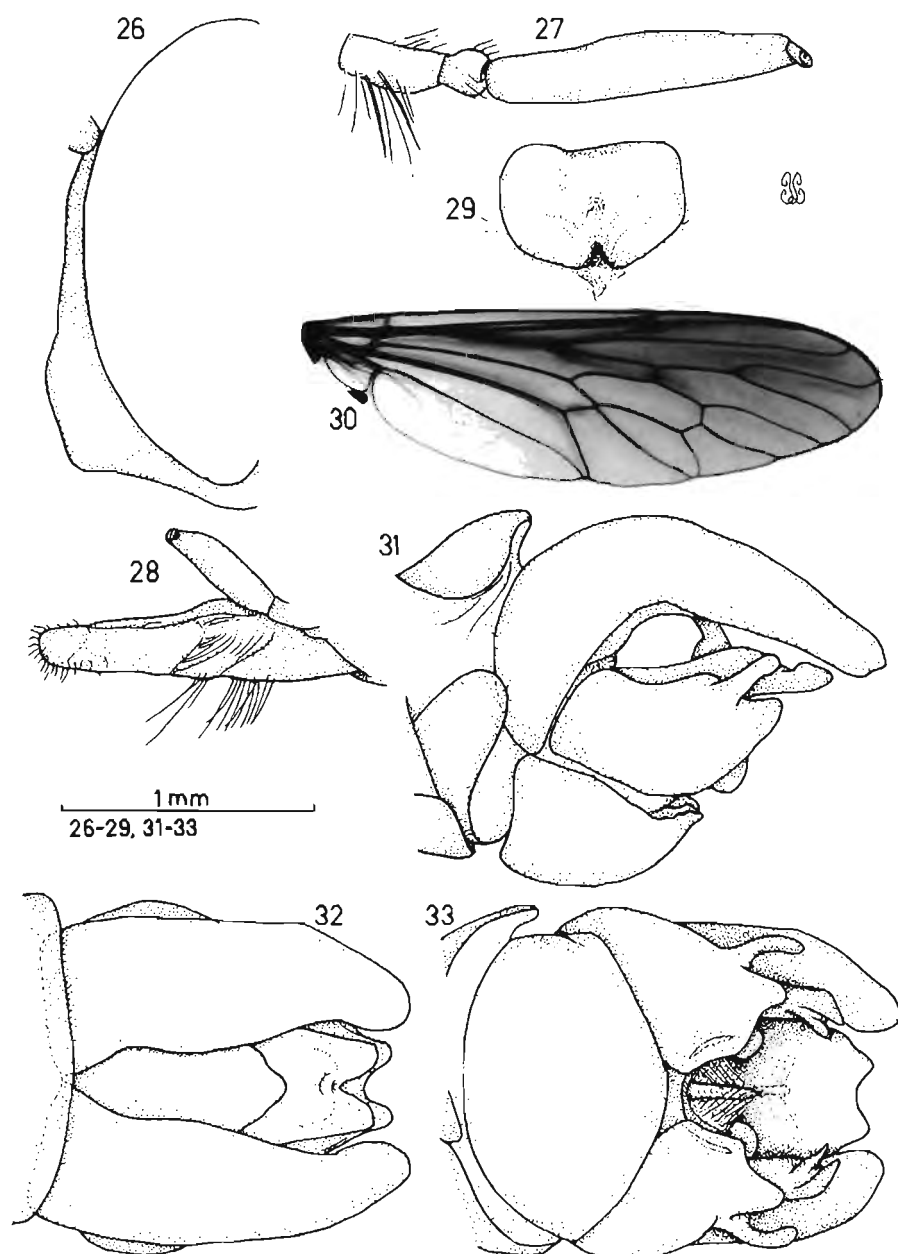
**Paratypes:** 5 ♂ 4 ♀ similar to holotype; mystax sometimes with a few yellow setae in upper part; palpus sometimes dark brown; legs sometimes more extensively orange.

**Material examined:**

**Holotype:** ♂, SOUTH AFRICA: 'South Africa: Cape Prov / Mountain Zebra Nat / Park 17–21.xii.1985 / 3225AD J. G. H. Londt / Bushveld vegetation' NMSA – Type No. 440.

**Other:** SOUTH AFRICA: *Cape Province:* 2 ♂ 2 ♀ **paratypes**, Murraysburg [31°57'S:23°46'E], xi. 1935, Mus. Staff (SAMC); 1 ♀ **paratype**, 18 km N of Sutherland, 32°16'S:20°41'E, 1350m, 26.xi.1990, Londt & Whittington, Renosterrivier area (NMSA); 2 ♂ 1 ♀ **paratypes**, Thee Kloof [Teekloof – 32°10'S:21°37'E], Fraserburg Div., xi.1935, Mus Staff (SAMC); 1 ♂ **paratype**, Nieuwveldt [32°10'S:22°20'E], Beaufort W Dist., xi.1935, Mus. Staff (SAMC); SAMC – Type No. 5488.

**Distribution** (Tables 2–3): Desert & Poor Steppe, and South & North Steppe climatic regions of South Africa.



Figs 26-33. *Scylaticus bunohippus* sp. n. 26-28. Head. 26. Lateral view of face. 27. Left antenna. 28. Palp and proboscis (left side). 29. Prosternum. 30. Wing (Sutherland paratype ♀). 31-33. Male genitalia. 31. Lateral. 32. Dorsal. 33. Ventral. (Mountain Zebra Nat. Park holotype ♂).

**Habits:** Adults active in early summer (Table 1) in relatively high-lying areas experiencing low rainfall, both during winter and summer. Both specimens collected by me were found in short grass. The male was collected amongst hillside rocks overlooking the caravan park while the female was found on flat, hard-baked soil, protected by woody shrubs, on the banks of the Renoster River. The species is vespid-like in flight.

**Relationships:** A member of the *costalis* species-group along with *costalis*, *braunsi* and *loewi*.

### **Scylaticus callimus** sp. n.

Figs 34–39

**Etymology:** Gr. *kallimos* = beautiful. Refers to the elaborate patterning of the thorax.

**Description:** Based on holotype ♂ (paratype ♂ illustrated).

**Head** (Figs 34–35): Dark red-brown; silver and gold pruinose. Antenna (Figs. 34–35) dark red-brown; setae pale yellow; proportional lengths of segments – 1 : 0,7 : 2,6 : 0,4; microsegment conical with terminal seta. Width of eye: width of face ratio 1,9 : 1. Mystax pale yellow-white; occupying ca. 30% of facial depth on slight gibbosity (Fig. 34). Palpus yellow-brown. Proboscis (Fig. 34) yellow-brown basally, matching colour of lower head, distally dark red-brown; straight.

**Thorax:** Msn uniformly dark red-brown, including posterior region, ppn lb yellow-brown; silver and gold pruinose. Macrosetae pale brown: ca. 9 npl plus smaller setae; ca. 4 spal plus smaller setae; ca. 5 pal plus smaller setae; acr undifferentiated; ca. 7 pairs dc, mostly postsuturally. Sctl with ca. 10 yellow marginal macrosetae plus smaller setae; disc bare (few marginal setae). Pleura patchy dark red-brown and red-brown; silver and gold pruinose; ktg macrosetae pale yellow. Prst (Fig. 36) unremarkable. Wing: 6,8 × 2,4 mm; cell m<sub>3</sub> widely open, cup narrowly open; membrane unstained; microtrichia evenly distributed over wing surface. Hlt: Yellow knob, brown stalk. Legs: Brown, upper parts of femora darker brown; fem 3 length 4,0 mm, setae pale yellow; cx 1 setae white.

**Abdomen:** Dark red-brown, terga brown-orange posterolaterally; gold-silver pruinose; setation fine and shortish pale yellow-white (longer on T1). Genitalia (Figs 37–39 paratype ♂ illustrated): rotated 90° clockwise; epandl fairly closely associated basally, bent downward at about midlength (Fig. 37); hypd broader than long, hardly projecting distally in lateral view (Fig. 37); goncx with well-developed, longish, curved dorsal subapical process.

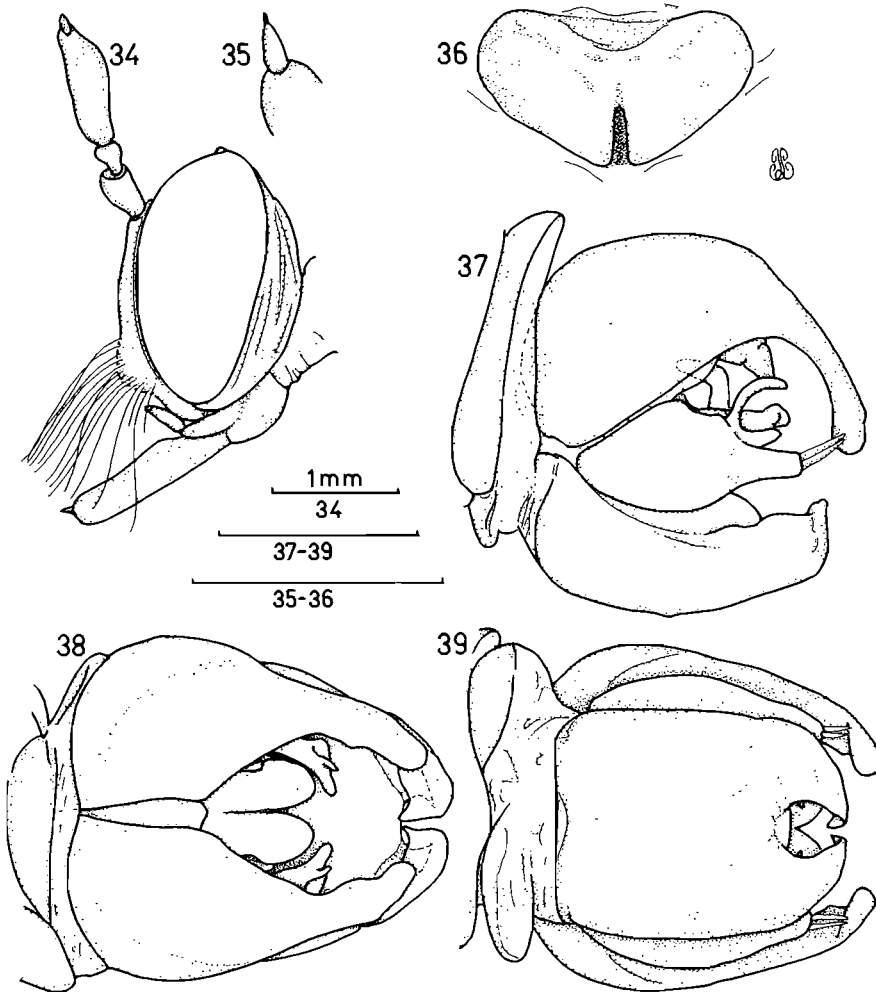
**Paratypes:** 1 ♂ similar to holotype.

**Material examined:**

**Holotype:** ♂, SOUTH AFRICA: 'Elandsberg Mts South / of Cockscomb Peak / Patensie Area / 1.12.67 3424DB / B & P Stuckenberg' (NMSA – Type No. 441).

**Other:** SOUTH AFRICA: *Cape Province*: 1 ♂ **paratype**, same data as holotype.

**Distribution** (Tables 2–3): South Cape Coastal climatic region of South Africa.



Figs 34-39. *Scylaticus callimus* sp. n. 34-35. Head. 34. Lateral. 35. Detail of left antennal tip. 36. Prosternum. 37-39. Male genitalia. 37. Lateral. 38. Dorsal. 39. Ventral. (Elandsberg paratype ♂).

**Habits:** Adults apparently active during mid summer (Table 1) in an area receiving both summer and winter rains.

**Relationships:** Appears to belong to the *laevinus* group which comprises eight species, namely *callimus*, *gymnosternum*, *laevinus*, *gongrocercus*, *hadromedus*, *thecarus*, *trophus* and *zonatus*.

**Scylaticus camptus sp. n.**

Figs 40–46, 211

Etymology: Gr. *kamptos* = curved. Refers to the gently downcurved proboscis.

Description: Based on holotype ♂ (paratype ♂ illustrated).

**Head** (Figs 40–42): Dark red-brown to black; silver pruinose. Antenna (Fig. 42) dark red-brown; setae dark red-brown; proportional lengths of segments – 1 : 0,4 : 3,4 : 0,4; microsegment short subcylindrical with terminal pit-enclosed seta. Width of eye: width of face ratio 1,4 : 1. Mystax white; occupying *ca.* 50% of facial depth on moderate gibbosity (Fig. 40). Palpus dark red-brown. Proboscis (Fig. 40) dark red-brown; gently downcurved.

**Thorax**: Msn uniformly dark red-brown, including ppn lb and posterior region; silver gold pruinose, especially laterally. Macrosetae white: 2 npl; 1 spal; 2 pal; acr undifferentiated; *ca.* 4 pairs dc postsuturally. Sctl with 6 yellow marginal macrosetae plus smaller setae; disc with few small white setae. Pleura dark red-brown; silver pruinose; 5 white ktg macrosetae plus few smaller setae. Prst (Fig. 43) unremarkable. Wing: 4,8 × 2,0 mm; cell  $m_3$  widely open, cup narrowly open; membrane unstained; microtrichia evenly distributed over wing surface. Hlt: Brown. Legs: Dark red-brown; fem 3 length 2,6 mm, setae white; cx 1 setae white.

**Abdomen**: Dark red-brown to black, hind margins of terga yellowish; silver pruinose, especially hind margins of terga; setation fine white. Genitalia (Figs 44–46): rotated 90° anticlockwise; epandl straight, tips gently inward curved (Fig. 45); hypd broader than long, projecting slightly distally in lateral view (Fig. 44), distal margin indented; goncx with moderately developed, shortish dorsal subapical process.

Paratypes: 7 ♂ 4 ♀ similar to holotype. ♀: tibiae brown-yellow proximodorsally; hind margins of terga more extensively yellow.

Material examined:

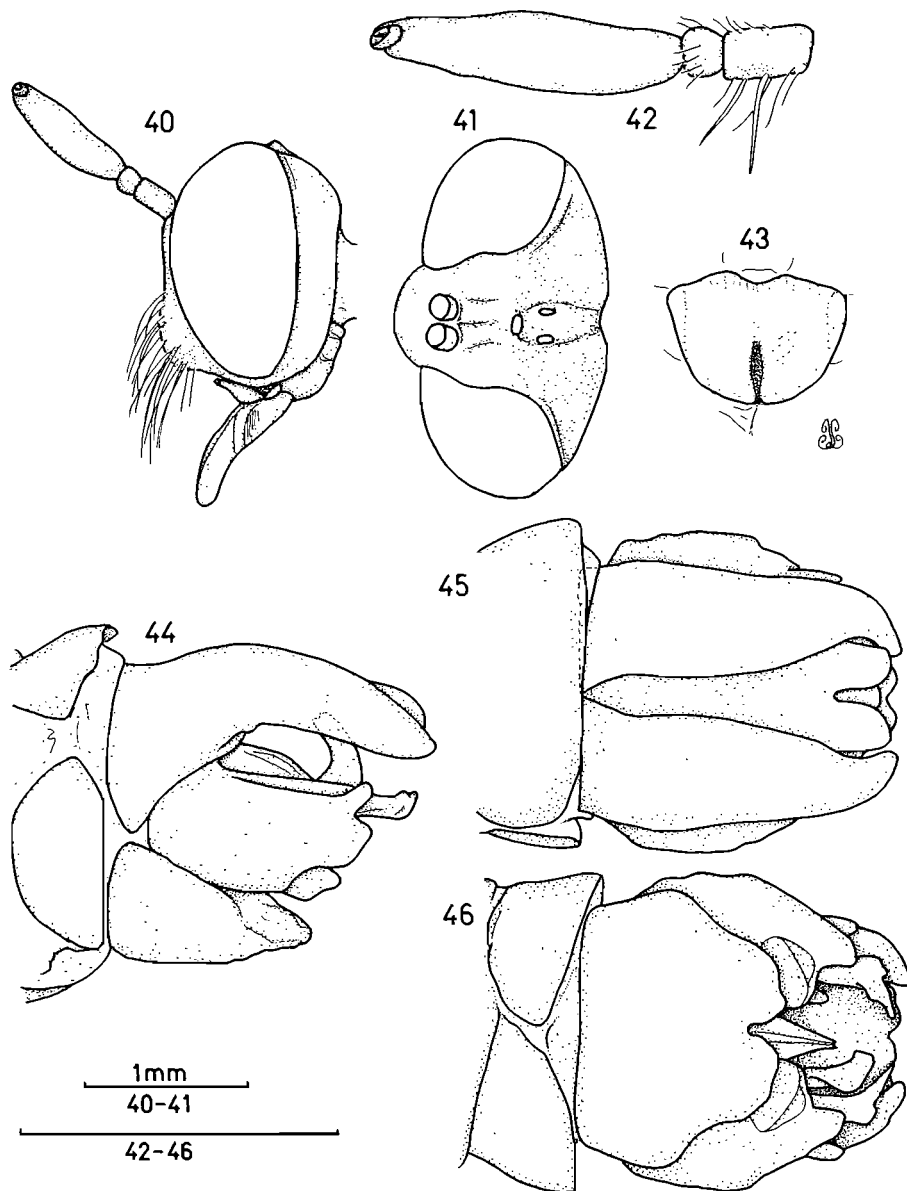
Holotype: ♂, SOUTH AFRICA: 'Sth Africa: Transvaal / 6 km N of Vivo 2229CC / 23–24.ii.1980 Londt / & Schoeman Bushveld / veget. & old lands' (NMSA – Type No. 442).

Other (NMSA unless otherwise indicated): BOTSWANA: 1 ♂ 1 ♀ **paratypes**, Farmers Brigade, 5 kms SE of Serowe, SE2226BD, Hillside, N slope, 3.i.1986 [♂] 2.ii.1986 [♀], P. Forchhammer, Malaise trap. NAMIBIA: 1 ♂ **paratype**, Katima Mulilo [= Katima Molilo – 17°30'S:24°16'E], E. Caprivi, 20–28.x.1970, A. Strydom. SOUTH AFRICA: *Transvaal*: 2 ♂ 1 ♀ **paratypes**, same data as holotype (1 ♂ BMNH); 1 ♂ **paratype**, N Kruger Natl Park, Pafuri 22°21'S 31°17'E, 14.ii. – 8.iii.1980, L. Braack, Malaise trap; 2 ♀ **paratypes**, Kruger Nat. Park, Pafuri, 22.26S 31.12E, 23–29.i.1984. C. D. Eardley (SANC); 1 ♂ **paratype**, Kruger Nat. Park, Lanner Gorge, 22.27S 31.08E, 402m., 28.i.1984. M. W. Mansell (SANC); 1 ♂ **paratype**, Fountains (Pretoria) [25°45'S:28°10'E], 6 – xii – 1929, G. van Son.

Distribution (Fig. 211 Tables 2–3): Botswana & Northern Namibian, Northern Transvaal, and Transvaal Lowveld climatic regions of southern Africa.

**Habits:** Adults active during mid summer (Table 1) in areas experiencing low to moderate summer rainfall. The Vivo material was collected on open ground adjacent to an old agricultural field.

**Relationships:** Appears to be most similar to *albofasciatus* but also resembles members of the *costalis* group (*costalis*; *braunsi*; *bunohippus*; *loewi*).



Figs 40-46. *Scylaticus campus* sp. n. 40-42. Head. 40. Lateral. 41. Dorsal. 42. Left antenna. 43. Prosternum. 44-46. Male genitalia. 44. Lateral. 45. Dorsal. 46. Ventral. (Vivo paratype ♂).

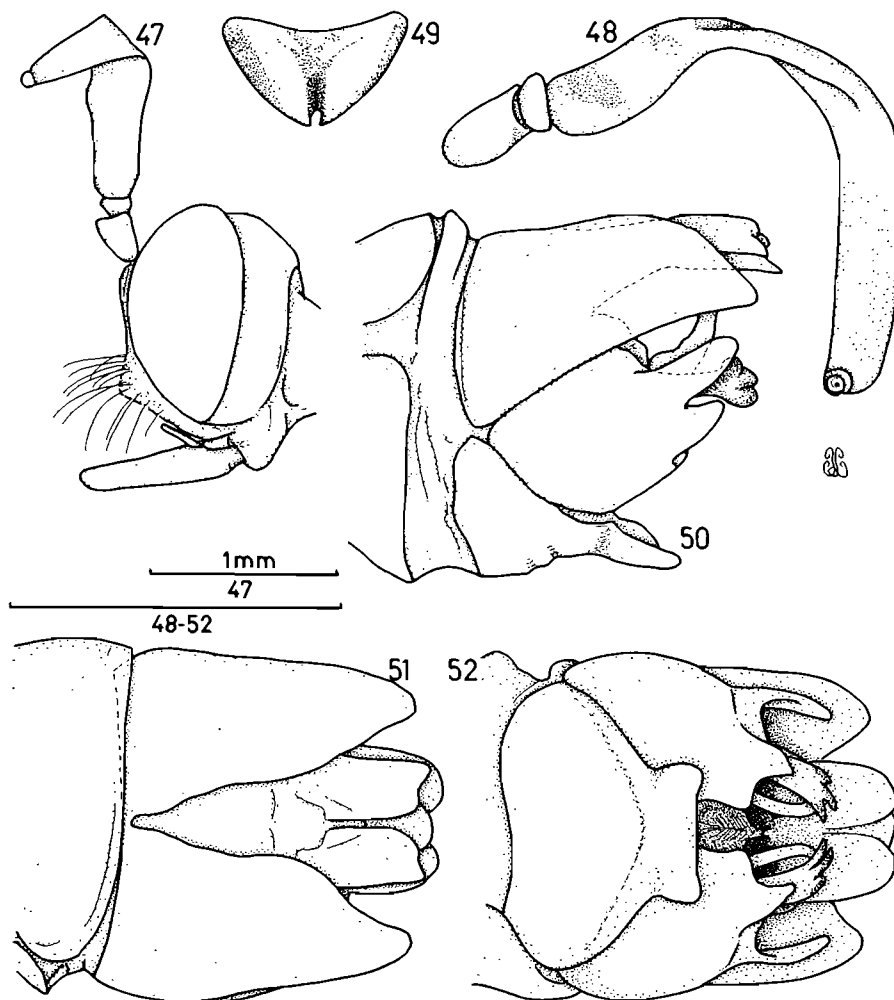
**Scylaticus ceratitus** sp. n.

Figs 47–52

Etymology: Gr. *keratitis* = horned. Refers to the long, curved antennae; reminiscent of horns.

Description: Based on holotype ♂ (paratype ♂ illustrated).

**Head** (Figs 47–48): Dark red-brown; silver pruinose (little gold on frons). Antenna (Fig. 48) dark red-brown except for yellow-brown scape; setae white; proportional lengths of segments – 1 : 0,3 : 7,8 : 0,2; flagellum long, ribbon-like, curved outward at about midlength; microsegment small, disc-like with terminal, pit-enclosed seta. Width of eye: width of face ratio 1,2 : 1. Mystax white;



Figs 47–52. *Scylaticus ceratitus* sp. n. 47–48. Head. 47. Lateral. 48. Left antenna, anterior view. 49. Prothoracum. 50–52. Male genitalia. 50. Lateral. 51. Dorsal. 52. Ventral. (Farmers Brigade paratype ♂).



occupying *ca.* 30% of facial depth on slight gibbosity (Fig. 47). Palpus dark red-brown. Proboscis (Fig. 47) dark red-brown; straight.

**Thorax:** Msn uniformly dark red-brown (with two darker median stripes), including posterior region, pprn lb yellow-brown; silver pruinose. Macrosetae white: 3 npl; 1 spal plus smaller setae; 2 pal; acr undifferentiated; *ca.* 2 pairs dc postsuturally. Sctl with 4 white marginal macrosetae plus smaller setae; disc bare. Pleura dark red-brown to black; silver pruinose; ktg macrosetae pale yellow-white. Prst (Fig. 49) triangular. Wing:  $4,9 \times 1,7$  mm; cell  $m_3$  widely open, cup narrowly open; membrane unstained although veins have faint brownish margins; microtrichia evenly distributed over wing surface. Hlt: Brown. Legs: Dark yellow-brown, dorsal parts of femora darker brown; fem 3 length 2,3 mm, setae white; cx 1 setae white.

**Abdomen:** Red-brown with yellow-brown posterolateral areas; weakly silver pruinose; setation short white, T1 and T2 with longer setae. Genitalia (Figs 50–52): rotated 90° anticlockwise; epandl triangular in dorsal view (Fig. 51); hypd broader than long, projecting slightly distally in lateral view (Fig. 50) as broad lobe with straight hind margin in ventral view (Fig. 52); goncx with well-developed, fairly broad dorsal subapical process and inner process bearing darkly sclerotised plate-like cusps.

Paratypes: 1 ♂ 1 ♀ similar to holotype. ♀: antennae broken off; hind part of mesonotum with paler brownish areas laterally.

Material examined:

Holotype: ♂, BOTSWANA: 'Botswana SE2226BD / Farmers Brigade / *ca.* 5 km SE of Serowe / P. Forchhammer 1300m / *A. tortilis* woodland / Malaise trap 3 / 30 – ix – 84 / Forestry Nursery' (NMSA – Type No. 443).

Other: BOTSWANA: 1 ♂ **paratype**, same data as holotype but 2.x.1984; 1 ♀ **paratype**, Farmers Brigade, 5 km SE of Serowe, SE2226BD, Hillside N slope, 30.ix.1984, P. Forchhammer, Malaise trap 2.

Distribution (Tables 2–3): Known only from the Botswana & Northern Namibian climatic region of Botswana.

Habits: Adults apparently active in early summer (Table 1) in an area experiencing low summer rainfall.

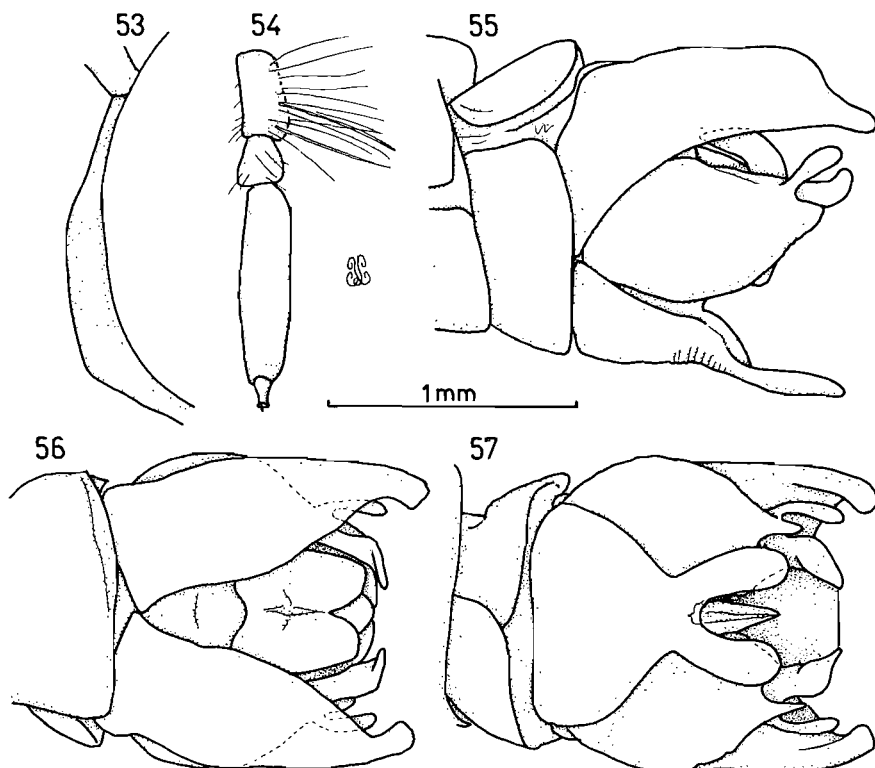
Relationships: A unique species without obvious affiliations.

### ***Scylaticus chrysotus* sp. n.**

Figs 53–57, 212

Etymology: Gr. *chrysotos* = gilded. Refers to the strong gold pruinescence, especially of the thorax. Description: Based on holotype ♂.

**Head** (Figs 53–54): Dark red-brown; face and parts of frons strongly silver pruinose, rest silver-gold pruinose. Antenna (Fig. 54) dark red-brown to black; setae pale yellow; proportional lengths of segments – 1 : 0,6 : 2,3 : 0,4; microsegment conical with terminal, pit-enclosed seta. Width of eye: width of



Figs 53–57. *Scylaticus chrysotus* sp. n. 53–54. Head. 53. Lateral view of face. 54. Left antenna. 55–57. Male genitalia. 55. Lateral. 56. Dorsal. 57. Ventral. (Bloemfontein holotype ♂).

face ratio 1,5 : 1. Mystax white; occupying ca. 70% of facial depth on slight gibbosity (Fig. 53). Palpus dark red-brown. Proboscis dark red-brown; straight.

**Thorax:** Msn uniformly dark red-brown including posterior region and prpn lb; silver-gold pruinose. Macrosetae pale yellow: 3 npl; 3 spal plus smaller setae; ca. 9 pal plus smaller setae; acr undifferentiated; small dc hidden by many setae. Sctl with ca. 8 yellowish marginal macrosetae plus smaller setae; disc with few yellowish setae. Pleura dark red-brown to black; silver-gold pruinose; ktg macrosetae yellow. Prst unremarkable. Wing: 6,2 × 2,1 mm; cell  $m_3$  widely open, cup narrowly open; membrane unstained; microtrichia evenly distributed over wing surface; few small basal areas bare. Hlt: Pale yellow knob, brown stalk. Legs: Uniformly dark red-brown to black; fem 3 length 3,5 mm, setae yellow; cx 1 setae white.

**Abdomen:** Dark red-brown to black; silver-gold pruinose, especially lateral and posterior margins of terga; setation yellowish, longer on T1. Genitalia (Figs 55–57): rotated 90° anticlockwise; epandl triangular with tips bent slightly inward in dorsal view (Fig. 56); hypd longer than broad, projecting distally as a pair of elongate lobes, almost as far as epandl; goncx with well-developed, fairly elongate, dorsal subapical process.

Paratypes: 10 ♂ 8 ♀ similar to holotype although there is some variation – specimens from the northern Cape and Botswana being somewhat larger (max. wing length – 8,1 mm); Botswana specimens have yellow-brown pprrn lb and ventral aspects of femora yellow. Male genitalia are reasonably consistent throughout the range.

Material examined:

Holotype: ♂, SOUTH AFRICA: 'South Africa O.F.S. / 20 km W. Bloemfontein / 2926AA 26.iii.1982 / J. Londt & L. Schoeman / Open grass & sand.' (NMSA – Type No. 444).

Other (NMSA unless otherwise indicated): BOTSWANA: 1 ♀ **paratype**, Farmers Brigade, ca. 6 km SE of Serowe, SE2226BD, 8.v.1984, P. Forchhammer, *A. tortilis* Woodland, Malaise trap 3; 1 ♂ **paratype**, Farmers Brigade, 5 kms SE of Serowe, SE2226BD, v.1986, P. Forchhammer, Hillside N slope, Malaise trap 3. NAMIBIA: 1 ♀ **paratype**, 11 km S Windhoek, Road 1/5, 22 39'S:17 04'E, 29.iii.1984, Stuckenberg & Londt, Rocky hillside grass and trees; 1 ♀ **paratype**, 3 km N Asob [Assab – 2517BD], Grundoner Riv., 16.iv.1980, V. B. Whitehead (SAMC); 1 ♂ 1 ♀ **paratypes**, 60 km N Grünau [27°44'S:18°23'E], 17.iv.1980, V. B. Whitehead (SAMC). SOUTH AFRICA: *Cape Province*: 1 ♂ 2 ♀ **paratypes**, 14 km S of Hotazel, 27°19'S:22°54'E, 1050 m, 14.iii.1991, Londt & Whittington, Ga-Mogara River bed; 1 ♂ **paratype**, Kimberley [28°45'S:24°46'E], iv.1914, Bro. Power (SAMC); 2 ♂ **paratypes**, Murraysburg [31°57'S:23°46'E], Doornbosch, 6.iii.1991, V. B. Whitehead (SAMC); 2 ♂ **paratypes**, Murraysburg Dist. [31°20'S:25°50'E], iii.1931, Museum Staff (SAMC). *Natal*: 1 ♂ **paratype**, Estcourt [29°00':29°53'E], 12.96 [xii.1896]. *Orange Free State*: 1 ♂ **paratype**, Petrusburg [29°07'S:25°25'E], 18 miles S. 28.iii.1928, H. K. Munro (SANC); 2 ♀ **paratypes**, 20 km W. Bloemfontein, 2926AA, 26.iii.1982, J. Londt & L. Schoeman, Open grass & sand. SAMC – Type No. 5489.

Distribution (Fig. 212 Tables 2–3): Widespread; recorded from the Botswana & Northern Namibian, Desert & Poor Steppe, South & North Steppe, and Drakensberg climatic regions of southern Africa.

Habits: Adults active in late summer (Table 1) in areas receiving late summer rainfall. The Natal record is exceptional.

Relationships: Together with *whiteheadi* forms the *chrysotus* group. Although superficially different, *quadrifasciatus* may be closely related to this species-pair.

### *Scylaticus costalis* (Wiedemann, 1819)

Figs 1, 58–71, 212

*Dioctria costalis* Wiedemann, 1819: 6.

*Scylaticus laticinctus* Loew, 1858: 349.

*Scylaticus costalis*; Loew, 1860: 157; Bezzi, 1906: 270; Kertész, 1909: 103; Engel, 1932: 277; Curran, 1934: 6; Hull, 1962: 145; Oldroyd, 1980: 368.

*Scylaticus rufescens* Ricardo, 1900: 170; Bezzi, 1906: 270; Hermann, 1907: 6; Kertész, 1909: 104;

*Scylaticus costalis* var. *nigrescens* Engel, 1932: 279.

*Scylaticus costalis* var. *rufescens*; Engel, 1932: 277.

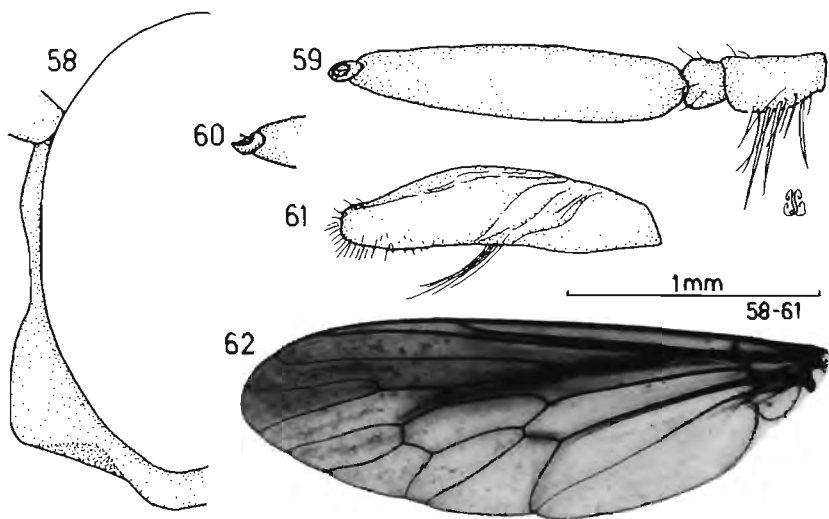
*Scylaticus xiphocerus* Bromley, 1952: 19; Oldroyd, 1980: 368. **Syn. n.**

**Etymology:** *L. costa* = rib, side. Refers to the darkened anterior parts of the wing (costal region included).

**Lectotype designation:** Wiedemann (1819) lists his material as follows – ‘♂. Prom. bon. sp. Januario’. The ZMUC has two ♀ specimens (ex Mus Western), both bearing red ‘Type’ labels. One of these specimens has a large hand-written label which reads ‘D. costalis Wied. / Cape Good Hope / Jan 1817’. As both specimens appear almost identical, even with respect to the pins, I assume that both were studied by Wiedemann and, although incorrectly sexed, should be treated as syntypes. I here designate the specimen bearing the large label as **lectotype** and the other as **paralectotype**.

**Redescription:** Based on ♀ lectotype.

**Head** (Figs 58–61): Dark red-brown to black; silver pruinose. Antenna (Figs 59–60) orange; setae yellow; proportional lengths of segments – 1 : 0,4 : 3,4 : 0,3; microsegment subconical with subterminal, pit-enclosed seta. Width of eye: width of face ratio 1,4 : 1. Mystax pale yellow; occupying *ca.* 50% of facial depth on slight gibbosity (Fig. 58). Palpus brown. Proboscis (Fig. 61) dark red-brown; straight.



Figs 58–62. *Scylaticus costalis* (Wiedemann, 1819). 58–61. Head. 58. Lateral view of face. 59. Left antenna, ventral. 60. Antennal tip, lateral. 61. Proboscis. 62. Wing (Grahamstown ♂). (Cap. B. Spei. lectotype ♀ except Fig. 62).

**Thorax:** Msn uniformly dark red-brown to black, posterolateral region and ppm lb yellowish; silver pruinose. Macrosetae yellow: 3 npl plus small setae; 2–3 spal; 3–4 pal; acr undifferentiated; *ca.* 8 dc, mostly postsuturally. Sctl with 6 orange marginal macrosetae setae; disc bare. Pleura dark red-brown; silver pruinose; ktg macrosetae white. Prst unremarkable. Wing (Fig. 62 – Grahamstown ♂ illustrated): 7,5 × 2,7 mm; cell *m*<sub>3</sub> widely open, cup narrowly open; membrane

brown stained anteriorly; microtrichia evenly distributed over wing surface. Hlt: Yellow. Legs: Uniformly orange; fem 3 length 3,7 mm, setae pale yellow; cx 1 setae white.

**Abdomen:** Red-brown but extensively orange posteromedially; fine silver pruinose; setation white, longer on T1. Genitalia (Figs 63–71): rotated 90° anticlockwise; epandl with gently sinuous margins and gently inward bent tips in dorsal view; hypd slightly broader than long, projecting distally as a pair of rounded lobes; goncx with well-developed, fairly elongate, dorsal subapical process.

**Paralectotype:** Similar to lectotype.

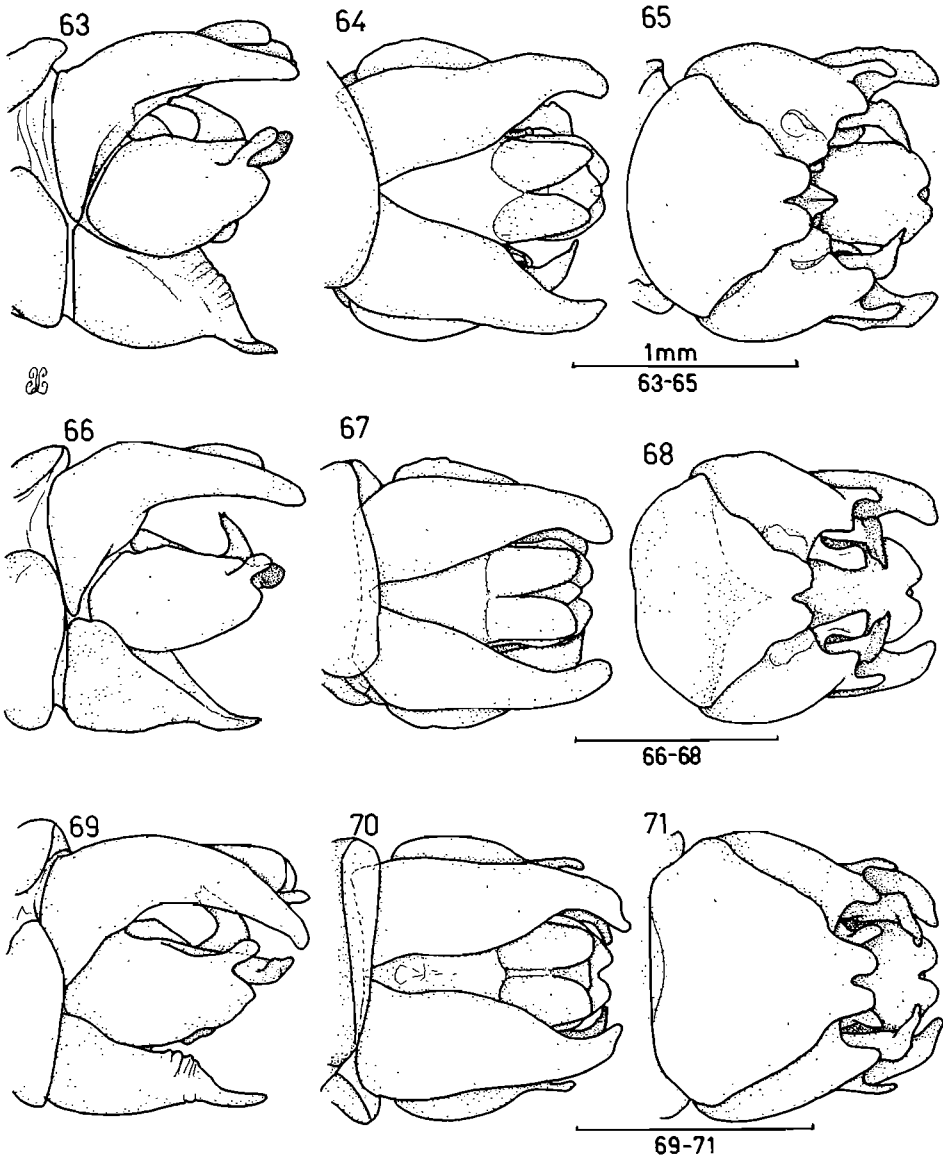
**Variation:** *S. costalis*, a widely distributed species, demonstrates individual and geographic variation in a number of characters; more importantly in macrosetal coloration which can vary from white, through yellow, orange, red, dark red-brown to almost black. This variation has been the main factor leading previous authors to describe a number of synonymous species or subspecies. The male genitalia, however, are remarkably consistent throughout the species range as shown in the illustrations (Figs 63–65 – typical Cape ♂ from Willowmore; 66–68 – Lesotho ♂ previously considered as *xiphocerus*; 69–71 – Transvaal ♂ previously considered as *rufescens*).

**Material examined:**

**Lectotype:** ♀, SOUTH AFRICA: ‘*D. costalis* / Cape of Good Hope / Jan 1817’, ‘Mus / Western.’, ‘TYPE’ (ZMUC).

**Other:** LESOTHO: 1 ♀, Tebetebung Mill [29°08’S:27°48’E], 13.xii.1964, C. Jacot-Guillarmod (AMGS); 1 ♀ **holotype** *xiphocerus*, ‘Mamathes [29°08’S:27°51’E] / Basutoland / 12 Jan 1947 / L. Bevis’, ‘Holotype ♀ / *Scylaticus* / *xiphocerus* / Bromley’, ‘*Scylaticus* / *xiphocerus* / new species / Det / S. W. Bromley 1949’ (DMSA); 3 ♂ 1 ♀, Mamathes, 14 21 22.xii.1947, C. Jacot-Guillarmod (AMGS); 1 ♀, Teyateyaneng [29°09’S:27°44’E], 16.xii.1964, D. J. Brothers (AMGS); 7 ♂ 6 ♀, Roma Mission [29°27’S:27°44’E], Maseru District, 4–13.i.1963, B. & P. Stuckenberg, Valley floor, Old lands, 5500 ft (NMSA); 2 ♂ 1 ♀, Mahlatsa [29°13’S:28°00’E], 14.i.1948, A. Jacot-Guillarmod (AMGS); SOUTH AFRICA: *Cape Province*: 1 ♀ **paralectotype**, data as for lectotype (ZMUC); 4 ♂ 2 ♀ [labelled as types but are not], Cap. b. sp. (NHMW); 1 ♀ **holotype** *laticinctus*, ‘Cap. B. Sp. / Tollin’, ‘*laticinctus*’, ‘*costalis*’, ‘10000’, ‘Coll. H. Loew’, ‘Holotypus’, ‘Zool. Mus. / Berlin’ (ZMHB); 1 ♂ 1 ♀, Cap. B / Spei., 21 [♂] 20 [♀ – NHRS catalogue records 22 ?], 246 [♂] 247 [♀] (NHRS); 1 ♂ 1 ♀, Capland, Lichtenstein S. (ZMHB); 1 ♂ 1 ♀, Bokfontein [32°51’S:19°15’E], Ceres, 8.iii.1985, J. G. Theron (NMSA); 1 ♀, Boplaas [32°17’S:20°16’E], 28.i.1943, E. C. Anderssen (NMSA); 1 ♂, Nieuwveldt [32°10’S:22°20’E], Beaufort W Dist., xi.1935, Museum Staff (SAMC); 1 ♂ 1 ♀, Aberdeen [32°29’S:24°05’E], xi.1935, Mus Staff (SAMC); 1 ♀, 16mi E of Cradock, Farm ‘Who can tell’, 3225BB, 1000m, 11.iii.1972, M. E. & B. J. Irwin (NMSA); 2 ♂ 1 ♀, Gardiner’s Drift, Adelaide [32°42’S:26°18’E], iii.1954, S.A. Museum (SAMC); 1 ♂, Fort Beaufort, 32.46S:26.38E, 1.xii.1983, G. L. Prinsloo

& N. C. Grobbelaar (SANC); 2 ♂, Fort Beaufort [32°47'S:26°38'E], 20.i.1960, C. Jacot-Guillarmod (AMGS); 1 ♀, Bonza Beach, East London [32°58'S:27°57'E], 7.i.1976, BM1978-97 (BMNH); 1 ♂, Stellenbosch [33°56'S:18°51'E], 18.xii.1967, J. G. Theron (NMSA); 1 ♀, Stellenbosch, i.1950, O. Schoeman (NMSA); 1 ♀, Stellenbosch, 30.iii.1947 (NMSA); 1 ♀, Stellenbosch, 3.v.1927, Ac. US.



Figs 63-71. *Scylaticus costalis* (Wiedemann, 1819). Male genitalia. 63-65. Willowmore ♂, Cape Province (typical *costalis*). 63. Lateral. 64. Dorsal. 65. Ventral. 66-68. Roma Mission ♂, Lesotho (previously *xiphocerus*). 66. Lateral. 67. Dorsal. 68. Ventral. 69-71. Hoedspruit ♂, Transvaal (previously *rufescens*). 69. Lateral. 70. Dorsal. 71. Ventral.

(NMSA); 1 ♂, Jonkershoek [33°58'S:18°58'E], Stellenbosch, 2.ii.1981, L. M. du Preez (NMSA); 1 ♀, Ceres [33°22'S:19°19'E], 2–21.iii.1921, R. E. Turner (BMNH); 1 ♂, Ceres, 1–3.i.1921, 1500 ft, R. E. Turner (BMNH); 1 ♂, Ceres, ii.1925, R. E. Turner (BMNH); 1 ♂ 2 ♀, Ceres, ii.1932, J. Ogilvie (BMNH); 2 ♀, Upper Sources, Olifants River, Ceres [33°22'S:19°19'E], xii.1949, Mus. Exp. (SAMC); 1 ♀, Constable [33°16'S:20°18'E], xii.1962, SAM (SAMC); 1 ♀, Worcester. [33°39'S:19°26'E], i.1929, R. E. Turner (BMNH); 1 ♂, Hex Riv. [33°41'S:19°27'E], xii.1884 (SAMC); 1 ♀, Hex R., 9.i.1883 (SAMC); 1 ♂, Hex River, i.1884 (SAMC); 1 ♂, Hex River, 9.i.1883 (BMNH); 1 ♀, Meiringspoort, 3322BC, 11–12.xii.1979, Londt & Stuckenberg, rocky hillside & stream edge (NMSA); 2 ♂ 2 ♀, Willowmore [33°17'S:23°30'E], 20.ii.1906 xi.1912, Dr Brauns (NMSA); 1 ♂, Loerie [33°52'S:25°02'E], i. 1960, SAM (SAMC); 2 ♂ 1 ♀, Gamtoos river valley, 3325CC, 13.xii.1979, Stuckenberg & Londt, roadside vegetation (NMSA); 1 ♀, Resolution [33°10'S:26°37'E], Albany Distr., 15.i.1929, A. Walton (NMSA); 1 ♀, Resolution [33°10'S:26°37'E], Grahamstown, 1930, Miss Walton (SAMC); 1 ♂, Clifton farm 22 km NW Grahamstown, 3326AB, 3 & 5.i.1986, J. & B. Londt & D. Gess, Arid area (NMSA); 3 ♂ 1 ♀, Grahamstown [33°18'S:26°32'E], iii.1971, J. G. H. Londt (NMSA); 1 ♂, Grahamstown, 18.xii.1952, B. Stuckenberg (NMSA); 1 ♀, Grt [Grahamstown], i.94 (AMGS); 1 ♀, Grahamstown, vi.57, J. Bradish (AMGS); 20 ♂ 8 ♀, Hilton [33°19'S:26°32'E], Grahamstown, 22–31.xii.1979 13–17.i. 21.i–3.ii.1980, F. W. & S. K. Gess, Malaise Trap (AMGS); 11 ♂ 4 ♀, Hilton, Grahamstown, 16.ii.1978 19–31.xii.1970 17–31.i 1–15.ii.1971, F. W. Gess (AMGS); 3 ♂ 2 ♀, Vlakwater [33°19'S:26°32'E], Grahamstown, 16 30.xi 3.xii.1981 30.xii.1985, F. W., S. K. & D. W. Gess (AMGS); 1 ♂, Port Alfred [33°36'S:26°54'E], 9.i.1971, J. G. H. Londt (NMSA); 1 ♂ 1 ♀, Bushmans Riv. [33°42'S:26°40'E] nr. Grahamstown, iii.1954, S.A. Museum (SAMC); 1 ♂, Somerset West [34°05'S:18°51'E], xi–ii [?]. 1927, A. J. Hesse (SAMC); 3 ♀, Swellendam [34°02'S:20°26'E], 9–14.xii.1931, R. E. Turner (BMNH); 1 ♀, 7 km S Swellendam, Bontebok National Park, 3420AB, iii.1979, L. Braack, Malaise trap nr. river (NMSA); 1 ♂ 1 ♀, Mossel Bay [34°11'S:22°08'E], ii.1922, R. E. Turner (BMNH); 1 ♀, Jeffreys Bay [34°03'S:24°55'E], i.1960, SAM (SAMC). *Natal*: 1 ♂, Cathedral Peak Forestry Area, 28.55S:29.14E, 10.xi.1981, S. J. v. Tonder, C. Kok (SANC); 1 ♂ 1 ♀, Weenen [28°51'S:30°05'E], R. E. Turner (BMNH); 1 ♀, Kransp [Kranskop 28°58'S:30°52'E], 12.xii.1906 (NMSA); 3 ♂ 2 ♀ 1 ?, Mfongosi [28°43'S:30°48'E], Zululand, xii.1911 xii.1914 ii.1917, W. E. Jones (SAMC); 1 ♀, Estcourt [20°00'S:29°53'E], 12/96 (BMNH); 1 ♀, Champagne Castle [29°02'S:29°25'E], 10.i.1979, P. Reavell, grassland (NMSA). *Orange Free State*: 1 ♀, Adullam Farm near Clarens, 28.34S:28.28E, 15–18.i.1986, B. Grobbelaar (SANC); 1 ♂, 15 km NE of Ladybrand, Modderpoortspruit, 2927Ab, 28.xii.1982, P. Stabbins & R. Miller (NMSA). *Transvaal*: 1 ♀, Mosdene Camp, Naboomspruit [24°31'S: 28°43'E], 5.xii.1976, Falc. Coll. Nat. Mus. Exp. (NMBZ); 1 ♀, Balloon Forest, 24°12'S:30°20'E, 8–11.iv.1977, D. H. Jacobs (NMSA); 3 ♂ 2 ♀, 30 km W Hoedspruit [ca. 24°23'S:30°40'E], 27.xi.1978, Brothers & J-Guillarmod (NMSA); 1 ♀ **holotype** *rufescens*, 'Type', 'Scylaticus / *rufescens* n.sp. / Type ♀ / G.R. 31.5.00', 'Barberton [25°47'S:31°03'E] / C. P. Randall', 'S. Africa / Distant Coll /

1911–383', '8543', 'Holotype / *Scylaticus* / *rufescens* Ricardo / det J. E. Chainey, 1983' (BMNH). TRANSKEI: 1 ♀, Pitseng Pass, Banks of Luzi River, 3028CB, 11.i.1979, J. Londt & B. Stuckenberg, rocky hill & grassveld (NMSA); 1 ♂, Umtata [31°35'S;28°47'E], 18.ii–18.iii.1923, R. E. Turner (BMNH).

Unsubstantiated literature records:

Hermann (1907): South Africa: *Transvaal*: 1 ♂, Lichtenburg.

Hengel (1932): 1 ♂ **holotype** *nigrescens* Lesotho: Basutoland, Phillips (ZSMC).

Hull (1962): South Africa: *Cape Province*: 3 ♀, Hout Bay, Skoorsteenkop, 26.xii.1959, Brinck & Rudebeck.

Distribution (Fig. 212 Tables 2–3): Widespread; ranging from the Mediterranean climatic region in the west through the Little & Great Karoo region, the southern parts of the Desert & Poor Steppe region, the South Cape Coastal, Drakensberg, Transvaal Lowveld, and Northern Transvaal climatic regions of South Africa and Lesotho.

Habits: Adults recorded from November through to June (Table 1) and found over a wide area experiencing various climatic conditions. F. W. Gess found *costalis* 'on pink mesem flowers' and 'on flowers of *Peristrophe*'.

Relationships: A member of the *costalis* group together with *braunsi*, *bunohippus* and *loewi*.

#### ***Scylaticus cuthbertsoni* sp. n.**

Figs 72–75

Etymology: Named for A. Cuthbertson in recognition of his work on the asilids of Zimbabwe.

Description: Based on unique holotype ♂.

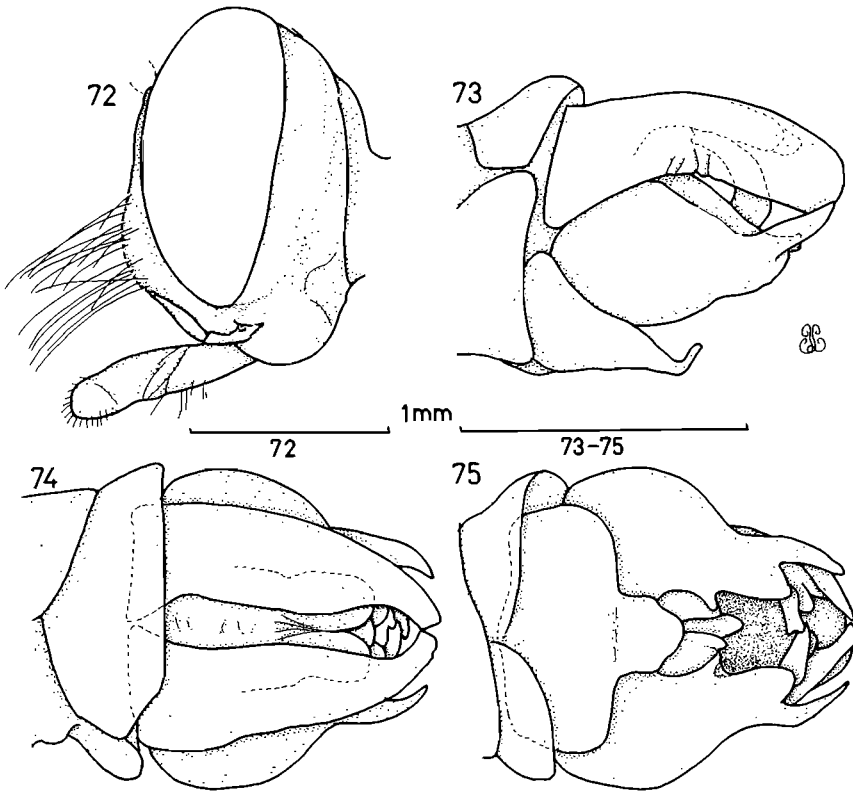
**Head** (Fig. 72): Dark red-brown; strong silver pruinose. Antenna missing. Width of eye: width of face ratio 1,6 : 1. Mystax yellow-white; occupying ca. 40% of facial depth on slight gibbosity (Fig. 72). Palpus red-brown. Proboscis dark red-brown; straight.

**Thorax**: Msn uniformly dark red-brown including posterior region and pprn lb; silver and gold pruinose. Macrosetae yellow: 3 npl; 4 spal; 3 pal; acr undifferentiated; ca. 5 dc postsuturally. Sctl with 6 yellow marginal macrosetae plus smaller setae; disc bare. Pleura dark red-brown; silver and gold pruinose; ktg macrosetae yellow. Prst unremarkable. Wing: 5,5 × 2,1 mm; cell m<sub>3</sub> open, cup closed at margin; membrane unstained; microtrichia evenly distributed over wing surface. Hlt: Brown-yellow. Legs: Yellow-brown; femora dark red-brown above, brown-yellow below; fem 3 length 3,2 mm, setae yellow; cx 1 setae white.

**Abdomen**: Red-brown; silver pruinose, especially laterally; setation yellowish, longer on T1. Genitalia (Figs 73–75): rotated 90° anticlockwise; epandl parallel to one another with tips bent slightly inward, and touching, in dorsal view (Fig. 74); hypd broader than long, projecting distally (tip bent upward) as a median distally rounded lobe; goncx with well-developed, fairly elongate, sharply pointed, dorsal subapical process.

Paratypes: None. ♀: Unknown.





Figs 72–75. *Scylaticus cuthbertsoni* sp. n. 72. Head, lateral. 73–75. Male genitalia. 73. Lateral. 74. Dorsal. 75. Ventral. (Sawmills holotype ♂).

**Material examined:**

Holotype (BMNH): ♂, ZIMBABWE: 'Sawmills [19°35'S:28°02'E] / S. Rhodesia / 22–2 – 1925 / Rhod. Museum', 'Pres. by / Imp. Bur. Ent. / Brit. Mus. / 1928–347'.

Other: None.

Distribution (Tables 2–3): Known only from south-western Zimbabwe.

Habits: Adults presumably active during mid summer (Table 1).

Relationships: Together with *tigrinus* forms the *cuthbertsoni* group.

***Scylaticus danus* sp. n.**

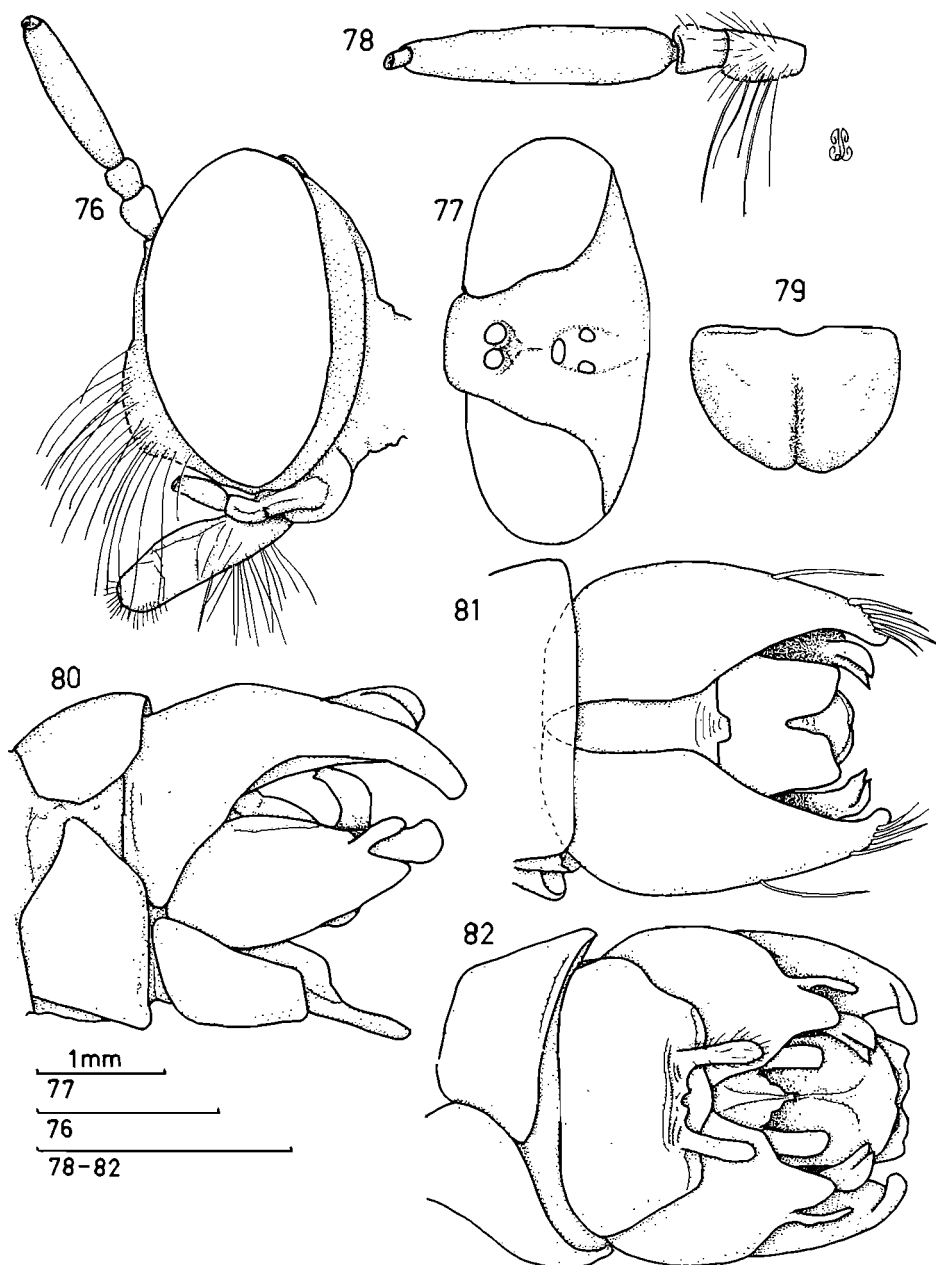
Figs 76–82

Etymology: Gr. *danos* = parched. Refers to the arid habitat in which the species is found.

Description: Based on holotype ♂.

*Head* (Figs 76–78): Dark red-brown to black; silver pruinose except for area

adjacent to ocellarium which is gold pruinose. Antenna (Fig. 78) dark red-brown to black; setae white; proportional lengths of segments – 1 : 0,6 : 3,4 : 0,3; microsegment cylindrical, with terminal pit-enclosed seta. Width of eye: width of face ratio 1,6 : 1. Mystax white; occupying *ca.* 50% of facial depth on moderate



Figs 76–82. *Scylaticus danus* sp. n. 76–78. Head. 76. Lateral. 77. Dorsal. Left antenna. 79. Prosternum. 80–82. Male genitalia. 80. Lateral. 81. Dorsal. 82. Ventral. (Williston holotype ♂).

gibbosity (Fig. 76). Palpus dark red-brown. Proboscis dark red-brown; fairly stout, straight.

*Thorax*: Msn dark red-brown to black; postalar callus and pprn lb brown-orange; silver and brown-gold pruinose. Macrosetae pale yellow: 4 npl; 2 pal; 5 pal; acr undifferentiated; ca. 3–4 dc plus smaller setae. Sctl with ca. 12 yellow marginal macrosetae; disc with moderate number yellow setae. Pleura patchy dark red-brown and red-brown; silver pruinose; ktg macrosetae white. Prst (Fig. 79) unremarkable. Wing:  $7,0 \times 2,5$  mm; cell  $m_3$  widely open, cup narrowly open; membrane unstained; microtrichia evenly distributed over wing surface except for small bare basal areas. Hlt: Brown-yellow knob, brown stalk. Legs: Dark red-brown; femora dark red-brown to black dorsally, orange-brown ventrally; fem 3 length 4,0 mm, setae pale yellow and white; cx 1 setae white.

*Abdomen*: Dark red-brown to black; terga with brown-orange hind margins; slightly silver pruinose; setation whitish, longer on T1. Genitalia (Figs 80–82): rotated 90° anticlockwise; epandl with strongly setose tips bent slightly inward in dorsal view (Fig. 81); hypd broader than long, rhomboidal, with pair of distally projecting finger-like processes on posterior margin (Fig. 82); goncx with moderately developed, dorsal subapical process.

Paratypes: 1 ♂ 8 ♀ similar to holotype, fair range in size (wing length range 6,1–9,1 mm).

Material examined:

Holotype: ♂, SOUTH AFRICA: 'Sth Africa: Cape Prov. / 10 km W of Williston / 15.xi.1986 3120BD / Londt & Quickelberge / 1060 m Sand/Acacias' (NMSA – Type No. 445).

Other (NMSA unless otherwise indicated): SOUTH AFRICA: *Cape Province*: 7 ♀ **paratypes**, same data as holotype (1 ♀ BMNH); 1 ♂ 1 ♀ **paratypes**, 9 km SW Willowmore, 3323AD, 30–31.x.1978, J. Londt & R. Miller, open Karoo scrub.

Distribution (Tables 2–3): Desert & Poor Steppe and Little & Great Karoo climatic regions of South Africa.

Habits: Adults active in early summer (Table 1) in arid areas receiving low summer rainfall.

Relationships: Together with *entrachus* forms the *danus* group. Although somewhat different, it is possible that *marginatus* may also belong to this group.

### *Scylaticus engeli* Bromley, 1947

Figs 83–88

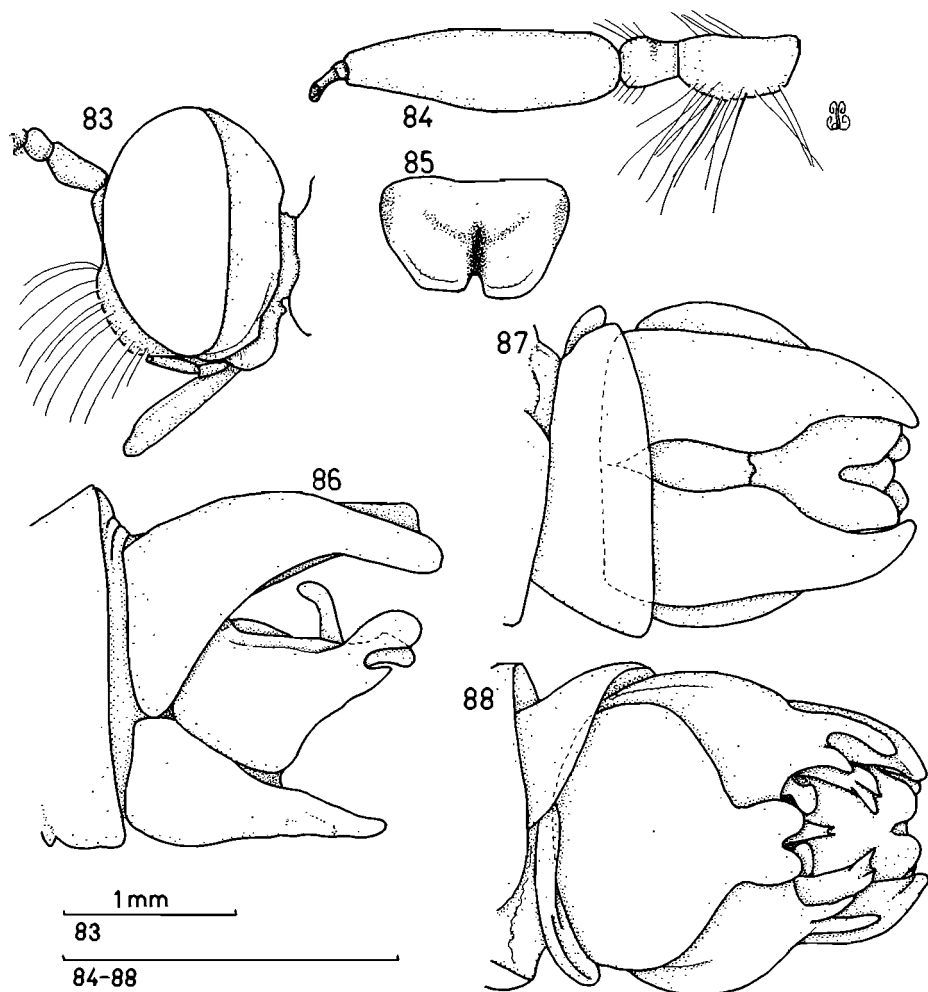
*Scylaticus engeli* Bromley, 1947: 111; Hull, 1962: 145; Oldroyd, 1980: 368.

Etymology: Named in honour of E. O. Engel who contributed greatly to our knowledge of Asilidae.

Redescription: Based on holotype ♂ unless otherwise stated.

*Head* (Figs 83–84): Dark red-brown; silver-gold pruinose. Antenna (Fig. 84) red-brown; setae brown-yellow; proportional lengths of segments – 1 : 0,5 : 2,3 :

0,1+0,3; microsegment appears 2-segmented, cylindrical, with terminal pit-enclosed seta. Width of eye: width of face ratio 1,5 : 1. Mystax brown-yellow (few brown setae ventrolaterally); occupying *ca.* 60% of facial depth on moderate gibbosity (Fig. 83). Face with slight swelling immediately below antennae. Palpus brown. Proboscis dark red-brown; straight.



Figs 83–88. *Scylaticus engeli* Bromley, 1947. 83–84. Head. 83. Lateral. 84. Left antenna. 85. Prosternum. 86–88. Male genitalia. 86. Lateral. 87. Dorsal. 88. Ventral. (84–85 Durban holotype ♂; 83, 86–88 Umlalazi Nature Res. ♂).

**Thorax:** Msn dark red-brown including postalar callus and ppn lb, with pattern of dark spots and longitudinal stripes; gold-silver pruinose. Macrosetae dark red-brown: 2 npl; 2 spal; 2–3 pal plus smaller setae; acr undifferentiated; *ca.* 7 dc, mostly postsuturally. Sctl with *ca.* 8 dark redbrown marginal macrosetae; disc with longish dark red-brown setae. Pleura dark red-brown; silver-gold pruinose;

ktg macrosetae yellow. Prst (Fig. 85) unremarkable. Wing:  $5,2 \times 1,7$  mm; cell  $m_3$  widely open, cup narrowly open; membrane unstained (appears slightly yellow); microtrichia evenly distributed over wing. Hlt: Yellow. Legs: Orange-brown, femora dark redbrown with orange-brown basal parts; first tarsomere of hind leg rather long; fem 3 length 2,7 mm, setae pale yellow; cx 1 setae pale yellow.

*Abdomen*: Red-brown; posterior one-third of terga silver-gold pruinose; setation pale yellow, no obvious macrosetae. Genitalia (Figs 86–88 Mtunzini ♂ 20–21.i.1980 illustrated): rotated 90° clockwise; epandl more or less parallel with tips, hardly bent inward in dorsal view (Fig. 87); hypd slightly broader than long, with bilobed distally projecting median process in ventral view (Fig. 88); goncx with well-developed, club-shaped, dorsal subapical process.

Paratypes: None.

Variation: Mtunzini material agrees well with holotype. ♀: Similar to male but abdomen appears more elongate. Port St. Johns ♂ somewhat different with mystax, antennal setae and mesonotal setae all shiny yellow.

Material examined:

Holotype: ♂, SOUTH AFRICA: 'Durban [29°51'S:31°01'E] / Natal / 21–2 – 20 / C. N. Barker / Beach B / 2519' [also bears Bromleys determination labels] (DMSA).

Other: SOUTH AFRICA: *Natal*: 4 ♂ 5 ♀, 1,5 km E Mtunzini, 2831DD, Umlalazi Nature Res. R. Miller, 24–28.i.1979 Coastal dune vegetat. [1 ♂ 1 ♀], ii.1979 indig. for., Malaise tr [1 ♀], 17–26.iii.1979 dunes Malaise trap 2 [1 ♂ 1 ♀], 19–27.i.1980 coastal dune vegetat. Malaise [1 ♂ 3♀], 20–21.i.1980 coastal dune vegetat. [1 ♂] (NMSA). TRANSKEI: 1 ♂, Port St. John [= Port St. Johns – 31°38'S:29°32'E] / Pondoland / 6–25.ii.1924, R. E. Turner (BMNH).

Distribution (Tables 2–3): Subtropical and South-eastern Cape Coastal climatic regions of South Africa.

Habits: Adults active during the second half of summer (Table 1) in coastal areas experiencing good summer rainfall. Collected on coastal dunes at Umlalazi Nature Reserve.

Relationships: This species does not appear to have any obvious affiliations with other members of the genus and cannot be placed in any of the identified species-groups.

### ***Scylaticus entrichus* sp. n.**

Figs 89–93

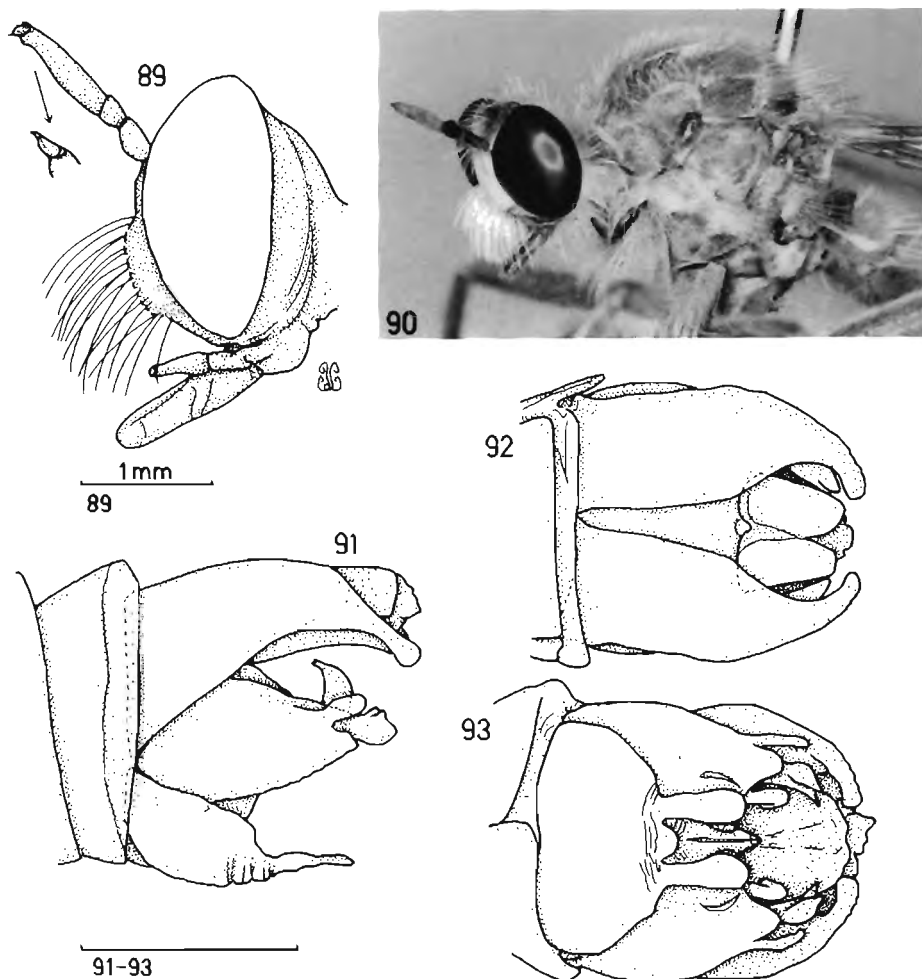
Etymology: Gr. *entrichos* = hairy. Refers to the long yellow mesonotal setae.

Description: Based on holotype ♂ (somewhat greasy) unless otherwise stated.

*Head* (Figs 89–90): Dark red-brown; silver pruinose. Antenna dark red-brown to black; setae yellow-white; proportional lengths of segments – 1 : 0,5 : 2,0 : 0,4; microsegment conical with terminal seta (Fig. 90). Width of eye: width of face ratio 1,5 : 1. Mystax yellow-white; occupying *ca.* 60% of facial depth on

moderate gibbosity (Fig. 89). Occipital setae yellow. Palpus yellow-brown. Proboscis dark red-brown; straight.

*Thorax*: Msn orange-brown with three dark red-brown stripes (median and 2 lateral); postalar callus and pprn lb orange-brown; silver-gold pruinose. Macrosetae dark yellow, difficult to separate from long setae: 3 npl; ca. 1 spal plus long setae; ca. 7 pal plus long setae; acr probably undifferentiated; dc probably present but hidden amongst long setae. Sctl with ca. 8 yellowish marginal macrosetae plus finer setae; disc with moderate number of yellow setae. Pleura red-brown (upper parts) and dark red-brown (lower part); silver-gold pruinose; ktg macrosetae yellow. Prst unremarkable. Wing: 7,2 × 2,5 mm; cell  $m_3$  widely open, cup narrowly open; membrane unstained; microtrichia evenly distributed over wing except for few small bare basal areas. Hlt: Brown-yellow.



Figs 89–93. *Scylaticus entrichus* sp. n. 89. Head, lateral. 90. Head and thorax. 91–93. Male genitalia. 91. Lateral. 92. Dorsal. 93. Ventral. (Calvinia holotype ♂).

Legs: femora dark red-brown dorsally, brown-yellow ventrally; tibiae brown-yellow; tarsi red-brown to dark red-brown; fem 3 length 4,5 mm, setae yellow-white; cx 1 setae yellow-white.

**Abdomen:** Dark red-brown, posterolateral corners of terga orange-brown; fine gold-silver pruinose; setation longish pale yellow, especially first 3 terga. **Genitalia** (Figs 91–93): rotated 90° clockwise; epandl more or less parallel, with tips bent inward in dorsal view (Fig. 92); hypd slightly broader than long, with pair of distally projecting median lobes on hind margin (Fig. 93); goncx with well-developed, dorsal subapical process (Fig. 91).

**Paratypes:** 8 ♂ 15 ♀ similar to holotype. Variation in size evident, ie. wing length range 5,7–8,3 mm. Visrivier material slightly less setose.

**Material examined:**

**Holotype:** ♂, SOUTH AFRICA: 'Sth Africa: Cape Province / 40 km SE of Calvinia / Middelpoos Rd 3120CA / 17.xi.1986 1240 m / Londt & Quickelberge / Dry woody scrubland' (NMSA – Type No. 446).

**Other** (NMSA unless otherwise indicated): SOUTH AFRICA: *Cape Province:* 1 ♂ **paratype**, Van Rhyn's Pass [31°23'S:19°00'E], 4–5.xi.1933, G. van Son; 3 ♀ **paratypes**, same data as holotype; 1 ♂ 4 ♀ **paratypes**, 23 km SE of Middelpoos, 32°01'S:20°25'E, 1200 m, 28.xi.1990, Whittington & Londt, Banks of Visrivier; 6 ♂ 7 ♀, **paratypes**, 3 ♂, 18 km N of Sutherland, 32°16'S:20°41'E, 1350 m, 26.xi.1990, Londt & Whittington, Renosterrivier area (1 ♂ 1 ♀ BMNH); 1 ♀ **paratype**, 15 km E of Sutherland, 32°23'S:20°48'E, 1600 m, 26.xi.1990, Whittington & Londt, Valley nr Observatory; 1 ♂, 19 km S of Sutherland, 32°33'S:20°34'E, 1100 m / 25.xi.1990, Whittington & Londt, Verlatekloof roadside.

I have seen a series of 12 ♂ 2 ♀ (AMGS) which are not entirely consistent with other material and so no type status is given to these specimens which may not be conspecific. Locality data are 'Cape Province, Prince Albert Dist., Tierberg (Study Site), 23°11'S, 22°16'24''E, 26.xi. – 5.xii.1987, F. W., S. K. & R. W. Gess'.

**Distribution** (Tables 2–3): Desert & Poor Steppe climatic region of South Africa.

**Habits:** Adults active in early summer (Table 1) in a low rainfall area experiencing predominantly winter rain (and snow). Collected on flat hard-baked ground alongside the Renoster River. One pair found copulating. Prey records: 1 ♂ 1 ♀ found with hemipterous prey – Pentatomidae (1); Lygaeidae (1); Lygaeidae nymph (1).

**Relationships:** Together with *danus* forms the *danus* species-group. Although somewhat different it is possible that *marginatus* may also belong to this group.

### ***Scylaticus gongrocercus* sp. n.**

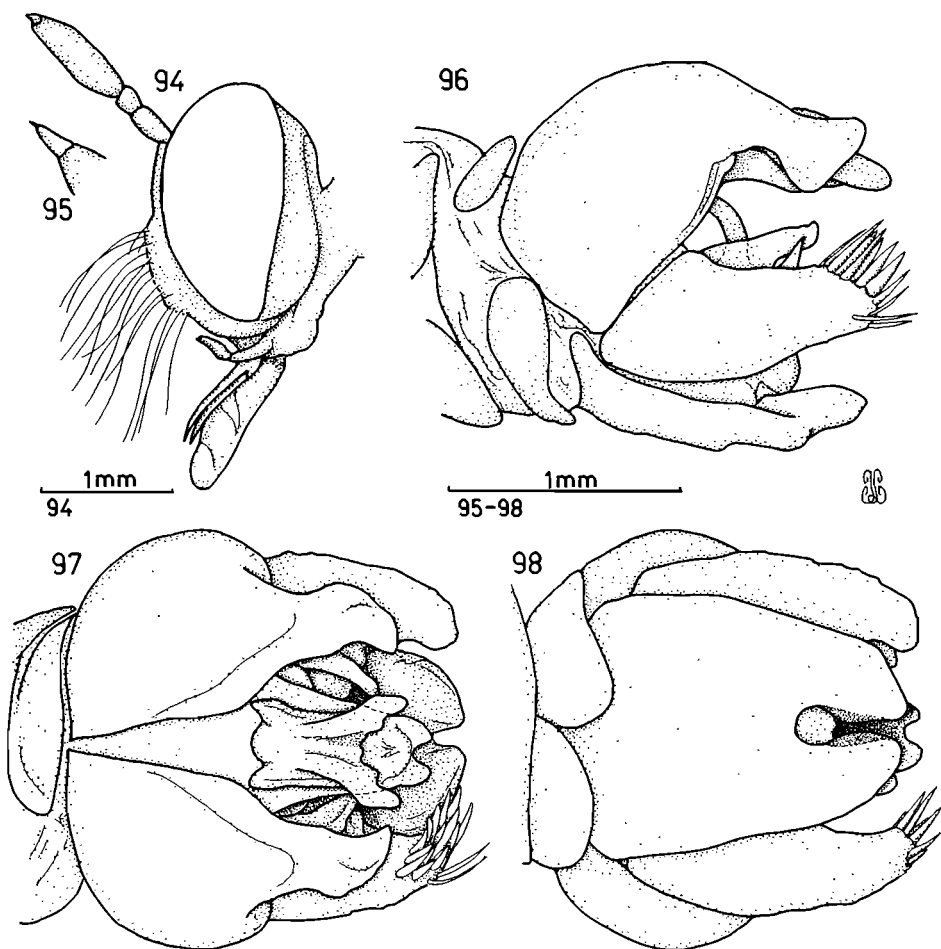
Figs 94–98

**Etymology:** Gr. *gongros* = swelling + *kerkos* = tail. Refers to the swollen appearance of the male genitalia.

**Description:** Based on holotype ♂ unless otherwise stated.

**Head** (Figs 94–95): Dark red-brown; silver pruinose face, rest gold pruinose.

Antenna dark red-brown; setae pale yellow; proportional lengths of segments – 1 : 0,6 : 2,5 : 0,4; microsegment conical with terminal seta. Width of eye: width of face ratio 1,9 : 1. Mystax yellow-white; occupying *ca.* 50% of facial depth on moderate gibbosity (Fig. 94). Palpus dark red-brown. Proboscis dark red-brown; fairly straight.



Figs 94–98. *Scylaticus gongrocercus* sp. n. 94–95. Head (holotype ♂). 94. Lateral. 95. Left antenna, tip. 96–98. Male genitalia (Worcester paratype). 96. Lateral. 97. Dorsal. 98. Ventral.

**Thorax:** Msn dark red-brown including ppnn lb and posterior parts; silvergold pruinose although ppnn lb gold-silver pruinose. Macrosetae dark-tipped yellow-brown: *ca.* 6 npl plus setae; *ca.* 6 spal plus setae; *ca.* 5 pal plus setae; acr undifferentiated; *ca.* 8 pairs dc, mostly postsuturally. Sctl with *ca.* 10 yellow-brown marginal macrosetae plus finer setae; disc bare. Pleura dark red-brown; dull gold pruinose; ktg macrosetae white. Prst unremarkable. Wing: 5,4 × 1,9 mm; cell *m*<sub>3</sub> widely open, cup narrowly open; membrane unstained; microtrichia



evenly distributed over wing. Hlt: yellow-brown. Legs: femora dark red-brown dorsally, brown-orange ventrally; tibiae dark red-brown ventrally, orange-brown dorsally; tarsi dark red-brown; fem 3 length 3,3 mm, setae pale yellow-white; cx 1 setae white.

**Abdomen:** Dark red-brown with slightly paler tergal margins; gold pruinose; setation pale yellow-white. Genitalia (Figs 96–98 paratype illustrated): rotated almost 180° clockwise; epandl wide basally, constricted subapically and of complex shape in dorsal view (Fig. 97); hypd longer than broad, deeply cleft distomedially (Fig. 98); goncx with moderately well-developed, sharply pointed, dorsal subapical process (Fig. 96) and many well-developed macrosetae distally.

Paratypes: 2 ♂ 2 ♀ similar to holotype.

Material examined:

Holotype: ♂, SOUTH AFRICA: 'Cape Province / Worcester [33°39'S:19°26'E] / 3–4.x.1928'; 'S. Africa / R. E. Turner / Brit. Mus / 1928–491' (BMNH).

Other (BMNH unless otherwise indicated): NAMIBIA: 2 ♀ **paratypes**, Aus [26°40'S:16°16'E], xii.1929, R. E. Turner. SOUTH AFRICA: *Cape Province*: 2 ♂ **paratypes**, same day as holotype (1 ♂ paratype NMSA – Type No. 447).

Distribution (Tables 2–3): Mediterranean and winter rainfall part of the Desert Poor & Steppe climatic region of southern Africa.

Habits: Adults apparently active during the first half of summer (Table 1) in areas experiencing winter rainfall.

Relationships: Is a member of the *laevinus* group which comprises eight species, namely *callimus*, *gymnosternum*, *laevinus*, *gongrocercus*, *hadromedus*, *thecarus*, *trophus* and *zonatus*.

### **Scylaticus gymnosternum sp. n.**

Figs 99–103

Etymology: Gr. *gymnos* = bare + *sternon* = chest. Refers to the apruinose prosternum.

Description: Based on holotype ♂ unless otherwise stated.

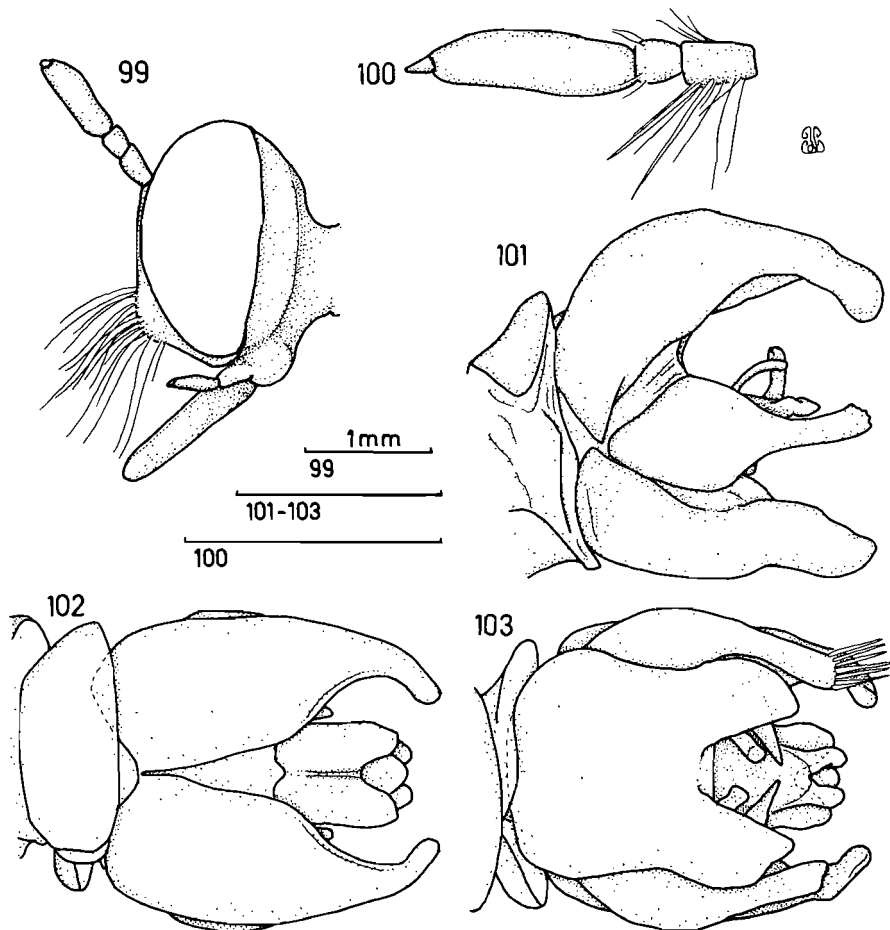
**Head** (Figs 99–100): Dark red-brown to black; silver pruinose. Antenna dark red-brown; setae brown-tipped yellow; proportional lengths of segments – 1 : 0,6 : 2,5 : 0,4; microsegment conical with terminal seta. Width of eye: width of face ratio 1,9 : 1. Mystax yellow-white; occupying ca. 30% of facial depth on slight gibbosity (Fig. 99). Palpus dark red-brown. Proboscis dark red-brown; straight.

**Thorax:** Msn dark red-brown with orange-brown pprn lb, blackish stripes (medially) and spots (laterally); silver pruinose although dark areas appear apruinose. Macrosetae brown-yellow: ca. 10 npl plus setae; ca. 5 spal; 6 pal plus setae; acr undifferentiated; ca. 5 pairs dc postsuturally. Sctl with ca. 14 yellow marginal macrosetae plus finer setae; disc bare. Pleura dark red-brown; gold and silver pruinose; ktg macrosetae yellow. Prst shape unremarkable, entirely shiny black apruinose. Wing: 6,3 × 2,2 mm; cell m<sub>3</sub> widely open, cup narrowly open;

membrane unstained although some basal veins appear bordered by pale brownish membrane; microtrichia evenly distributed over wing except for few small bare basal areas. Hlt: Pale yellow knob, brown stalk. Legs: femora dark red-brown dorsally, orange-brown ventrally; tibiae dark red-brown ventrally, orange-brown dorsally; tarsi dark red-brown; fem 3 length 3,6 mm, setae yellow; cx 1 setae pale yellow.

**Abdomen:** Dark red-brown with red-brown areas laterally; shiny silver and gold pruinose; setation pale yellow. **Genitalia** (Figs 101–103 paratype illustrated): rotated 90° anticlockwise; epandl slightly divergent, wide basally, distal tips bent slightly inward in dorsal view (Fig. 102); hypd longer than broad, deeply and widely cleft distomedially (Fig. 103); goncx with well-developed, slender, finger-like, dorsal subapical process (Fig. 101) and many well-developed macrosetae distally.

Paratypes: 1 ♂ 1 ♀ similar to holotype.



Figs 99–103. *Scylaticus gymnosternum* sp. n. 99–100. Head. 99. Lateral. 100. Left antenna. 101–103. Male genitalia. 101. Lateral. 102. Dorsal. 103. Ventral. (Uniondale paratype ♂).

**Material examined:**

Holotype: ♂, SOUTH AFRICA: 'Sth Africa: Cape Prov / 6km N Uniondale / 11.xii.1979 3323CA / Stuckenberg & Londt / Dry Karoo vegetation. (NMSA – Type No. 448).

Other: SOUTH AFRICA: *Cape Province*: 1 ♂ 1 ♀ **paratypes**, same data as holotype (NMSA).

Distribution (Tables 2–3): Little & Great Karoo climatic region of South Africa.

Habits: Adults apparently active in mid summer (Table 1) in an area experiencing low summer rainfall. Collected in open terrain with hard-baked ground, some stones and woody shrubs.

Relationships: Is a member of the *laevinus* group which comprises eight species, namely *callimus*, *gymnosternum*, *laevinus*, *gongrocercus*, *hadromedus*, *thecarus*, *trophus* and *zonatus*.

**Scylaticus hadromedus sp. n.**

Figs 104–107

Etymology: Gr. *hadros* = well developed + *medos* = genitalia. Refers to the large, well-developed genitalia.

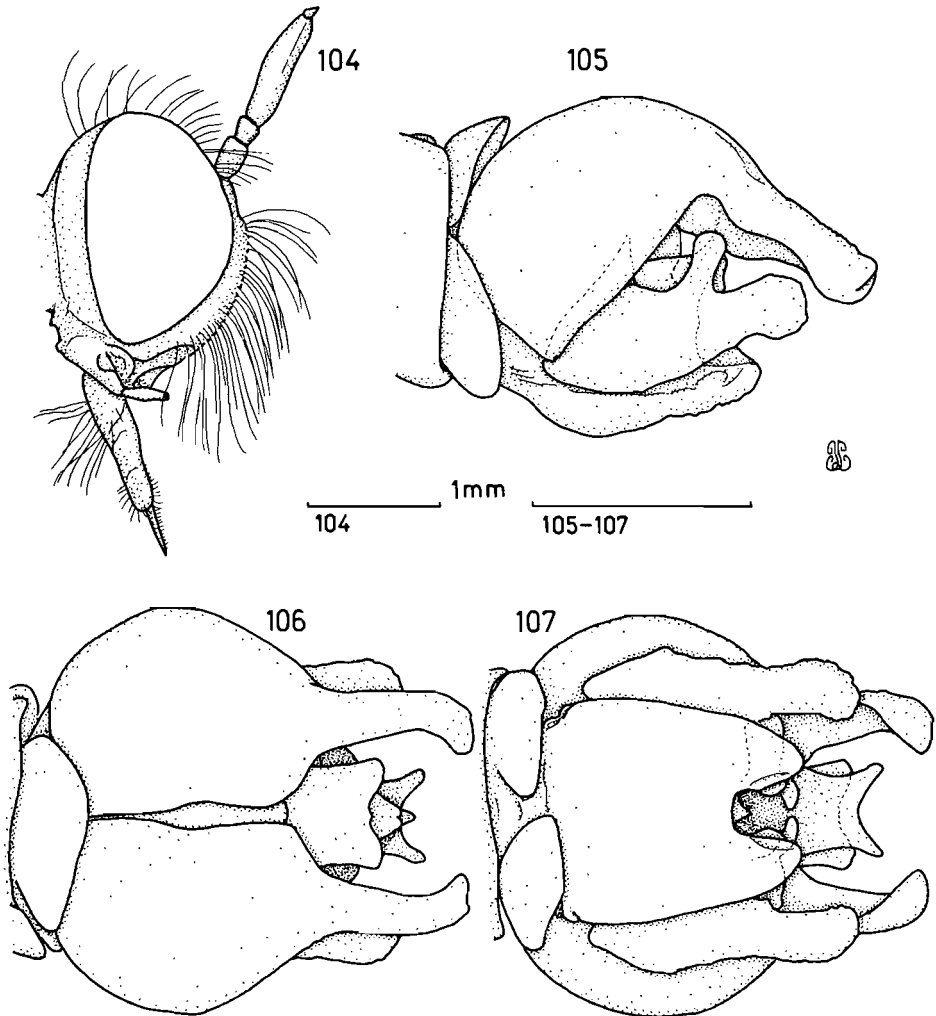
Description: Based on holotype ♂.

**Head** (Fig. 104): Dark red-brown; face and eye margins silver pruinose, rest gold pruinose. Antenna dark red-brown; setae pale yellow; proportional lengths of segments – 1 : 0,6 : 3,1 : 0,4; microsegment conical with terminal seta. Width of eye: width of face ratio 1,6 : 1. Mystax white; occupying *ca.* 80% of facial depth on slight gibbosity (Fig. 104). Palpus dark red-brown. Proboscis dark red-brown; straight.

**Thorax**: Msn dark red-brown including pprn lb, blackish stripes (medially) and spots (laterally); gold pruinose. Macrosetae yellow: 4 npl; 6 spal plus smaller setae; *ca.* 8 pal plus setae; acr undifferentiated; dc probably present but not distinguished from other longish setae mostly postsuturally. Sctl with *ca.* 12 yellow marginal macrosetae plus finer setae; disc bare (concave, perhaps due to shrinkage). Pleura dark red-brown to black; dull gold pruinose; ktg macrosetae white. Prst unremarkable. Wing: 5,8 × 1,9 mm; cell *m*<sub>3</sub> widely open, cup narrowly open; membrane unstained; microtrichia evenly distributed over wing except for few small bare basal areas. Hlt: Brown-yellow knob, yellow-brown stalk. Legs: Femora dark red-brown; tibiae brown-orange, tips little darker; tarsi dark red-brown; fem 3 length 3,2 mm, setae white; cx 1 setae white.

**Abdomen**: Dark red-brown; weakly gold pruinose; setation white, especially macrosetae on T1. Genitalia (Figs 105–107 similar to *gongrocercus*): rotated almost 180° clockwise; epandl wide basally, constricted at about midlength and of complex shape in dorsal view (Fig. 106); hypd longer than broad, deeply cleft distomedially (Fig. 107); goncx with well-developed, lobe-like, dorsal subapical process (Fig. 105) and many well-developed macrosetae distally.

Paratypes: 2 ♂ 6 ♀ similar to holotype.



Figs 104–107. *Scylaticus hadromedus* sp. n. 104. Head, lateral. 105–107. Male genitalia. 105. Lateral. 106. Dorsal. 107. Ventral. (Soetwater holotype ♂).

**Material examined:**

**Holotype:** ♂, SOUTH AFRICA: 'South Africa: W. Cape / 34,5 km S Soetwater / 29.ix – 1.x.1977 500m / R. M. Miller 3119CD / Malaise trap' (NMSA – Type No. 449).

**Other:** SOUTH AFRICA: *Cape Province*: 1 ♂ 4 ♀ **paratypes**, Augustfontein [Augustfontein – 31°37'S:19°22'E], (Calvinia), ix.1947, Mus. Exp. (SAMC); 1 ♂ **paratype** 1 ?, Near Doornbosch [31°58'S:19°14'E], ix.1961, S.A.M. (SAMC); 1 ♀ **paratype**, East of Pakhuis Pass [32°08'S:19°00'E], ix.1947, Mus. Exp. (SAMC). SAMC Type No. 5490.

**Distribution** (Tables 2–3): Desert & Poor Steppe climatic region of South Africa.

**Habits:** Adults active in early summer (Table 1) in a winter rainfall area.

**Relationships:** Is a member of the *laevinus* group which comprises eight species, namely *callimus*, *gymnosternum*, *laevinus*, *gongrocercus*, *hadromedus*, *thecarus*, *trophus* and *zonatus*.

***Scylaticus iota* sp. n.**

Figs 108–112

**Etymology:** Gr. 9th letter of the alphabet, also meaning anything very small. Refers to the small size of this rather atypical species.

**Description:** Based on holotype ♂ unless otherwise stated.

**Head** (Figs 108–109): Dark red-brown to black; gold pruinose. Antenna yellow-brown; setae pale yellow; proportional lengths of segments – 1 : 0,8 : 2,5 : 0,5 (scape and pedicel of almost equal length); microsegment cylindrical with terminal seta. Width of eye: width of face ratio 1,8 : 1. Mystax white; restricted to narrow fan-like strip occupying *ca.* 10% of facial depth on almost non-existent gibbosity (Fig. 108). Palpus small, yellow-brown. Proboscis yellow-brown; straight.

**Thorax:** Msn dark red-brown, pprn lb postalar calli and scutellar margin yellow-brown; gold pruinose. Macrosetae yellow: 1 npl plus small setae; 1 spal plus small setae; 1 pal plus small setae; acr undifferentiated; 2 pairs dc postsuturally. Sctl with *ca.* 8 yellow marginal macrosetae plus small setae; disc with fine yellow setae. Pleura dark red-brown and yellow-brown; gold pruinose; *ca.* 7 ktg yellow macrosetae. Prst unremarkable. Wing: 2,9 × 1,1 mm; cell *m*<sub>3</sub> widely open, cup narrowly open; membrane unstained; microtrichia evenly distributed over wing. Hlt: Brown-yellow. Legs: Brownyellow, dorsal parts of femora slightly darker; fem 3 length 1,4 mm, setae yellow; cx 1 setae white.

**Abdomen:** Dark red-brown with brown-orange patches; gold pruinose; setation yellow, longer laterally, especially on first three terga. Genitalia (Figs 110–112 paratype illustrated): rotated about 90° anticlockwise; epandl wide basally, tip somewhat pointed in lateral view (Fig. 110); hypd longer than broad, with mediodistal lobe bearing a few upturned setae apically; goncx rounded in lateral view, with large club-shaped dorsal process (rather unlike those seen in other species) (Fig. 110).

**Paratypes:** 2 ♂ 8 ♀ similar to holotype.

**Material examined:**

**Holotype:** ♂, SOUTH AFRICA: 'Sth Africa: Cape Prov / Swartkop 31km NW of / Sutherland 3220BA / Londt & Quickelberge / 18–19.xi.1986 1600m / Rocks Woody macchia' (NMSA – Type No. 450).

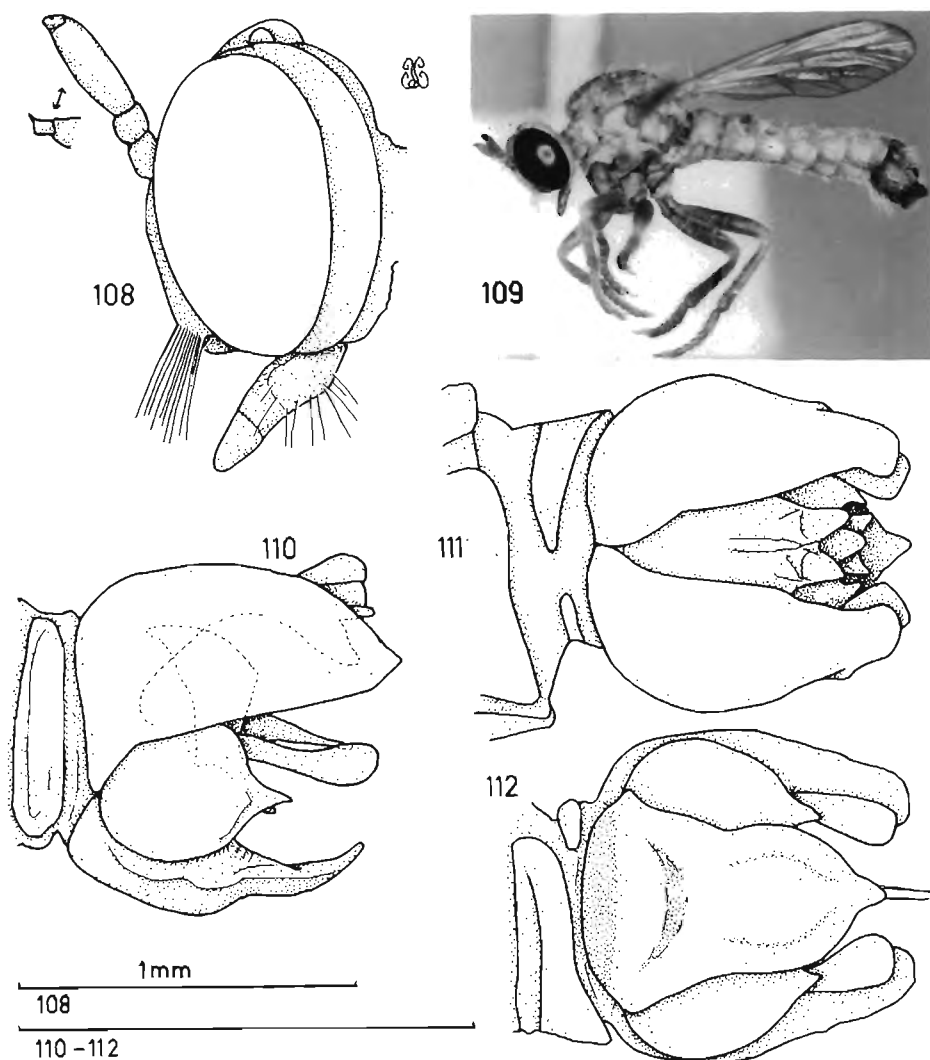
**Other** (NMSA unless otherwise indicated): SOUTH AFRICA: *Cape Province:* 3 ♀ **paratypes**, 46 km SE of Middelpoos, 3220AB, 18.xi.1986, Londt & Quickelberge, 1250m, Scrub nr river (1 ♀ BMNH); 2 ♂ 1 ♀ **paratypes**, same data as holotype; 2 ♀ **paratypes**, 18 km E of Sutherland (Observatory) 3220BD, 18.xi.1986, Quickelberge & Londt, 1700 m, Rocky hillside bush; 2 ♀

**paratypes**, 6 km S Prince Albert, 3322AA, 10.xi.1986, Londt & Quickelberge, 780 m Sand/ Acacias.

**Distribution** (Tables 2–3): Desert & Poor Steppe and Little & Great Karoo climatic regions of South Africa.

**Habits:** Adults apparently active during the first half of summer (Table 1) in dry areas experiencing winter rainfall. Collected on dry ground and rocks. A single ♀ (Swartkop) was collected with prey – Hemiptera: Lygaeidae (1).

**Relationships:** A distinctive species which can not be assigned to any of the identified species-groups.



Figs 108–112. *Scylaticus iota* sp. n. 108. Head, lateral. 109. Entire ♂. 110–112. Male genitalia. 110. Lateral. 111. Dorsal. 112. Ventral. (Swartkop paratype ♂).

**Scylaticus irwini** sp. n.

Figs 113–119, 211

**Etymology:** Named for Dr Michael Irwin, former staff member at the Natal Museum, in recognition of his excellent field work during which he collected some of the type specimens of this taxon.

**Description:** Based on holotype ♂ unless otherwise stated.

**Head** (Figs 113–115): Dark red-brown to black; silver pruinose. Antenna (Fig. 115) dark red-brown to black; setae dark brown; proportional lengths of segments – 1 : 0,5 : 2,2 : 0,2; flagellum of characteristic shape, having basal bulge and tiny pimple-like microsegment with small terminal seta. Width of eye: width of face ratio 1,9 : 1. Mystax white; occupying *ca.* 50% of facial depth on slight gibbosity (Fig. 113). Palpus dark red-brown. Proboscis dark red-brown; straight.

**Thorax:** Msn dark red-brown to black including pprn lb; gold-silver pruinose. Macrosetae yellow: 3–4 npl; 4 spal plus small setae; *ca.* 7 pal plus small setae; acr undifferentiated; *ca.* 5 pairs long black dc postsuturally. Sctl with *ca.* 10 yellow marginal macrosetae plus small setae; disc bare. Pleura dark red-brown; gold-silver pruinose; ktg macrosetae pale yellow. Prst shape unremarkable; median and lateral parts apruinose (Fig. 116). Wing: 6,6 × 2,2 mm; cell m<sub>3</sub> and cup narrowly open; membrane unstained; microtrichia evenly distributed over wing except for few small bare areas basally. Hlt: Yellow-brown. Legs: Dark red-brown except for contrasting brown-yellow proximal half of femora; fem 3 length 3,7 mm, setae longish white; cx 1 setae white.

**Abdomen:** Dark red-brown to black; fine silver pruinose but laterally strong gold-silver pruinose; setation white, T1 with thin macrosetae laterally. Genitalia (Figs 117–119 paratype illustrated): rotated 90° anticlockwise; epandl more or less parallel in dorsal view (Fig. 118), tips somewhat bulbous and inward bent; hypd longer than broad, trilobed distally; goncx well-developed with large dorsal process (Fig. 117).

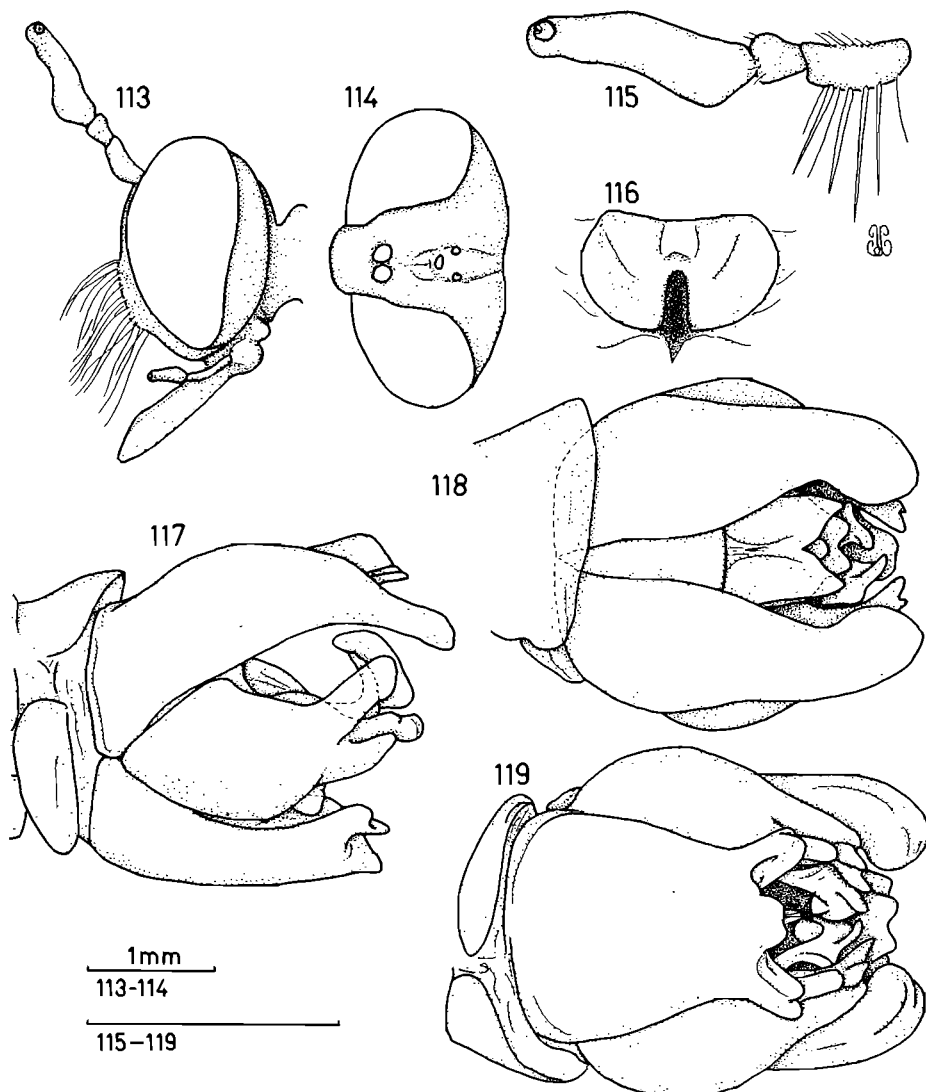
**Paratypes:** 19 ♂ 19 ♀ similar to holotype.

**Material examined:**

**Holotype:** ♂, SOUTH AFRICA: 'South Africa, Cape Prov. / 13.5mi SSW Springbok, / nr, Neweputs Farm, 2600ft / Sept. 7, 1972, ME & BJ Irwin / 2917Dd' (NMSA – Type No. 451).

**Other (NMSA unless otherwise indicated):** NAMIBIA: 2 ♀ **paratypes**, Aus [26°40'S:16°16'E], xii.1929, R. E. Turner (BMNH); 1 ♂, Aus [26°40'S:16°16'E], 14 ix 1983, V. B. Whitehead (SAMC). SOUTH AFRICA: *Cape Province:* 1 ♀ **paratype**, Richtersveld, 2816BD, 40 km S of Ohta Mine, 2.ix.1983, Londt & Stuckenberg, Mixed Karoo bush with few flowers; 1 ♂ **paratype**, Aninaus Pass, 2917BA, 15km W of Steinkopf, 4.ix.1983, J. Londt & B. Stuckenberg, Rocky hillside & dry river; 2 ♂ **paratypes**, same data as holotype; 9 ♂ 3 ♀ **paratypes**, 25 km N Kamieskroon, 2917DD, 5.ix.1983, Stuckenberg & Londt, Rocky hillside veget. (1 ♂ BMNH); 1 ♀, Bowesdorp [30°09'S:17°52'E], Namaqualand, xi.1931, Museum Staff (SAMC); 1 ♂ 5 ♀, Btw Kamieskroon [30°12'S:17°56'E] and

Springbok, Namaqualand, x.1939, Mus. Staff (SAMC); 2 ♂, Klip Vlei, Garies [Klipvlei – 30°33'S:17°59'E], Namaqualand, xi.1931, Museum Staff (SAMC); 1 ♂ 1 ♀ **paratypes**, 10 km E. Kamieskroon, 3018AA, 17.x.1977, Ray M. Miller, 630 m, Malaise trap [♀ not Malaise collected]; 1 ♀ **paratype**, Wolfhok, 3018AC, 24.x.1986, L. E. Schoeman; 4 ♂ 7 ♀ **paratypes**, Olifants River [31°27'S:18°32'E] bet. Citrusdal & Clanwilliam, x-xi.1931, Museum Staff (SAMC); 1 ♀, Augustfontein [Augustfontein – 31°37'S:19°22'E] (Calvinia), ix.1947, Mus. Exp.



Figs 113–119. *Scylaticus irwini* sp. n. 113–115. Head. 113. Lateral. 114. Dorsal. 115. Left antenna. 116. Prosternum. 117–119. Male genitalia. 117. Lateral. 118. Dorsal. 119. Ventral. (Springbok paratype ♂).



(SAMC); 1 ♀, Clanwilliam District, Clanwilliam Dam, 32°11'30"S 18°53'42"E, 14.x.1987, F. W. & S. K. Gess; 1 ♀, 6 km SW Clanwilliam, 32°11'S:18°53'E, 200 m, 1.xi.1991, J. G. H. Londt, Hillside behind motel; 1 ♂ 3 ♀, Paleisheuvel [32°28'S:18°43'E], xi. 1948, Mus. Exp. (SAMC); 2 ♂ 2 ♀, 14 km NNW Citrusdal, 32°31'S:18°58'E, 300 m, 1.xi.1991, J. G. H. Londt, woody plants, sandy; 4 ♂ 2 ♀, Het Kruis [32°35'S:18°44'E], x.1947, Mus. Exp. (SAMC); 1 ♀, 30 km N Citrusdal [32°35'S:19°01'E], 29 × 1981, V. B. Whitehead (SAMC); 2 ♀, Rooinek Pass [33°20'S:20°55'E], x.1952, Mus. Expd. (SAMC); 1 ♂ 1 ♀ **paratypes**, 65 km S Prince Albert, 3322AA, 10.xi.1986, Londt & Quickelberge, 780 m, Sand/Acacias; 1 ♂, Klaarstroom [33°20'S:22°32'E], Prince Albert, x.1952, Mus. Expd. (SAMC); 3 ♀ **paratypes**, Oudtshoorn, Rus en Vrede, 33.24S 22.21E, 18.xii.1986, M. W. Mansell (SANC); 2 ♂ 1 ♀ 1, Oudtshoorn, Zebra [33°45'S:22°19'E], x.1951, Mus. Expd. (SAMC); 1 ♂ **paratype**, Gamtoos valley bush, Hankey area, 3324DA, 5.xii.1967, B. & P. Stuckenberg. SAMC – Type No. 5491.

Distribution (Fig. 211 Tables 2–3): Winter rainfall parts of the Mediterranean, Desert & Poor Steppe and Little & Great Karoo climatic regions of southern Africa.

Habits: Adults active during the first half of summer (Table 1) in areas experiencing low rainfall throughout the year. Collected by me on dry ground, usually in rocky areas.

Relationships: A member of the distinctive *irwini* group comprising three species, namely *irwini*, *tyligmus* and *zirconius*.

### *Scylaticus laevinus* (Walker, 1849)

Figs 120–124

*Dasyopogon laevinus* Walker, 1849: 358; Kertész, 1909: 129.

*Scylaticus laevinus*; Oldroyd, 1980: 368.

Etymology: Presumably from the latin *laevigatus* meaning smooth or bald (without hair). Walker placed his species in *Dasyopogon*, many species of which are bristly.

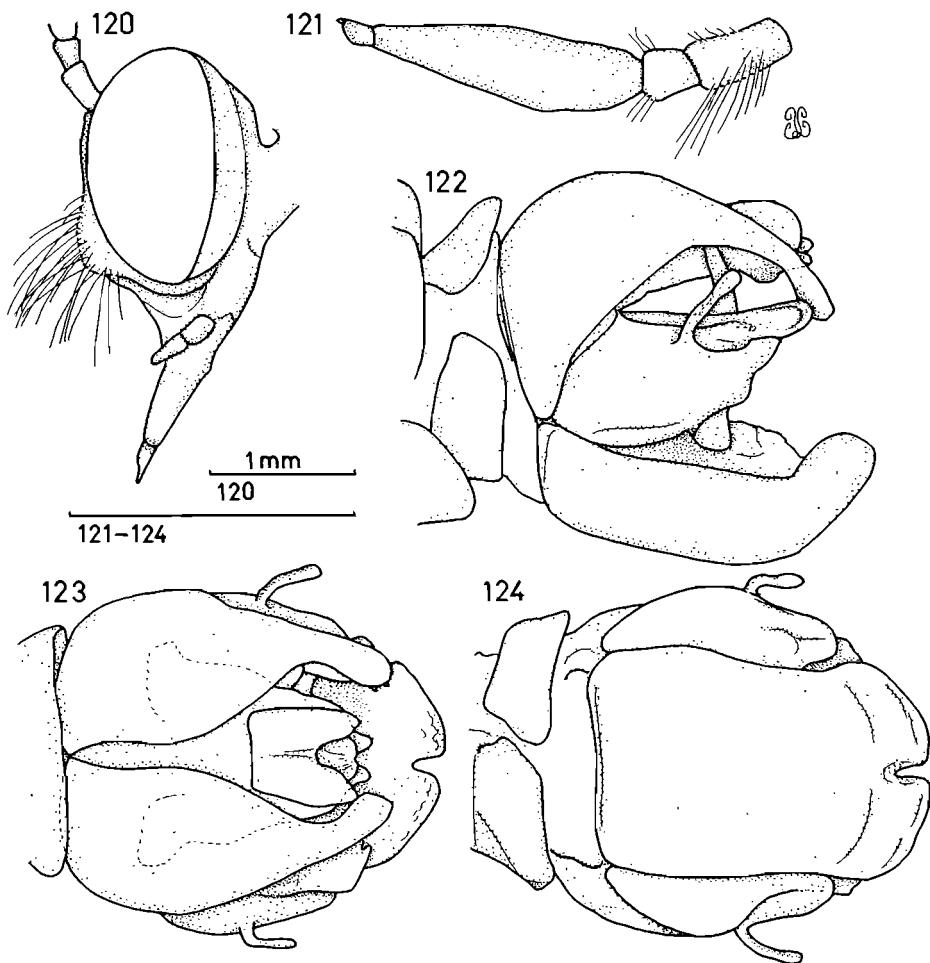
Redescription: Based on unique holotype ♀ unless otherwise stated.

**Head** (Figs 120–121 Queenstown ♂ illustrated): Dark red-brown to black; silver pruinose. Antenna (Fig. 121) dark red-brown to black; setae pale yellow; proportional lengths of segments – 1 : 0,6 : 3,2 : 0,7 (Katberg ♂); microsegment elongate-conical with small terminal seta. Width of eye: width of face ratio 1,6 : 1. Mystax pale yellow-white; occupying *ca.* 60% of facial depth on slight gibbosity (Fig. 120). Palpus dark brown. Proboscis dark red-brown; straight.

**Thorax**: Msn dark red-brown including pprn lb; silver pruinose. Macrosetae pale yellow: 3 npl plus small setae; 3 spal plus small setae; 3 pal plus small setae; acr undifferentiated; few pairs dc (broken off) postsuturally. Sclt with 8 yellow-white marginal macrosetae plus small setae; disc with few small white-yellow setae. Pleura dark red-brown; gold-silver pruinose; ktg macrosetae pale yellow-white. Prst unremarkable. Wing: 6,5 × 2,5 mm; cell *m*<sub>3</sub> widely open and cup narrowly open; membrane unstained; microtrichia evenly distributed over wing. Hlt: Pale

yellow. Legs: Uniformly brown-yellow; fem 3 (Katberg ♂ as holotypes hind legs missing) length 3,5 mm, setae longish pale yellow; cx 1 setae pale yellow-white.

**Abdomen:** Dark red-brown; silver pruinose tergal margins; setation white, T1 with few macrosetae laterally. Genitalia (Figs 122–124 Katberg ♂): rotated 90° anticlockwise; epandl fairly slender distally (Fig. 122); hypd longer than broad, subrectangular in shape, distal margin cleft medially; goncx with slender finger-like dorsal process (Fig. 122).



Figs 120–124. *Scylaticus laevinus* (Walker, 1849). 120–121. Head (Queenstown ♂). 120. Lateral. 121. Left antenna. 122–124. Male genitalia (Katberg ♂). 122. Lateral. 123. Dorsal. 124. Ventral.

#### Material examined:

Holotype: ♀, SOUTH AFRICA: 'Type'; 'S. Africa / Purchased / from Argent / 48–70'; 'S / Africa'; 'Holotype / Dasypogon / laevinus Walker / det. JE Chainey 1983' (BMNH).

Other (BMNH except where indicated): 1 ♂, Queenstown [31°54'S:26°53'E], 3500 ft, 16.i. – 10.ii.1923, R. E. Turner; 3 ♂, Queenstown [31°54'S:26°53'E], 15.xii.1979, V. B. Whitehead (SAMC); 4 ♂ 1 ♀, Katberg [32°32'S:26°41'E], 4000 ft, 1–15.i.1933, R. E. Turner (1 ♂ NMSA); 1 ♂, Kentani C.C. [32°31'S:28°19'E], 1907, A. Pegler (SAMC); 1 ♂, Loerie [33°52'S:25°02'E], i.1960, SAM (SAMC); 1 ♂ 1 ♀, Jeffreys Bay [34°03'S:24°55'E], i.1969, SAM (SAMC).

Restriction of type-locality: The holotype has no detailed locality data, so I here restrict the type-locality to Katberg in the eastern Cape.

Distribution (Tables 2–3): South Cape Coastal, Southeast Cape Coastal, and southern parts of the South & North Steppe climatic region of South Africa.

Habits: Adults active in mid summer (Table 1) in areas experiencing predominantly summer rainfall.

Relationships: A member of the *laevinus* group comprising eight species, namely *callimus*, *gymnosternum*, *laevinus*, *gongrocercus*, *hadromedus*, *thecarus*, *trophus* and *zonatus*.

### **Scylaticus loewi** sp. n.

Figs 125–129

Etymology: Named after Herman Loew in recognition of his excellent pioneering work on Afrotropical Asilidae.

Description: Based on holotype ♂ unless otherwise stated.

**Head** (Fig. 125): Dark red-brown to black; silver pruinose. Antenna dark red-brown to black; setae white; proportional lengths of segments – 1 : 0,4 : 4,1 : 0,2; flagellum long and somewhat curved and horn-like (in paratypes sometimes almost straight); microsegment tiny, subconical with small terminal seta. Width of eye: width of face ratio 1,4 : 1. Mystax white; occupying *ca.* 50% of facial depth on moderate gibbosity (Fig. 125). Palpus dark brown to black. Proboscis dark red-brown; straight.

**Thorax**: Msn dark red-brown to black, pprn lb and postalar region orangebrown; silver pruinose. Macrosetae pale yellow: 2 npl plus small setae; 1 spal plus small setae; 2 pal plus small setae; acr undifferentiated; *ca.* 6 pairs dc postsuturally. Sctl with 4 yellow-white marginal macrosetae; disc bare. Pleura dark red-brown; gold-silver pruinose; ktg macrosetae white. Prst unremarkable. Wing (Fig. 126 ♀ paratype): 5,9 × 2,2 mm; cell *m*<sub>3</sub> widely open and cup narrowly open; membrane transparent except for brown stained anterior half; microtrichia evenly distributed over wing except for few small bare areas basally. Hlt: Yellow knob, brown stalk. Legs: Dark red-brown to black, distal and proximal ends of femora and proximal end of tibiae brown-orange; fem 3 length 3,0 mm, setae white; cx 1 setae white.

**Abdomen**: Dark red-brown, distal tergal margins yellow-orange, T2 with redbrown patch proximally; silver pruinose; setation white, longish on proximal terga. Genitalia (Figs 127–129 paratype illustrated): rotated 90° clockwise; epandl more or less parallel-sided, fairly slender distally and slightly inward bent (Fig.

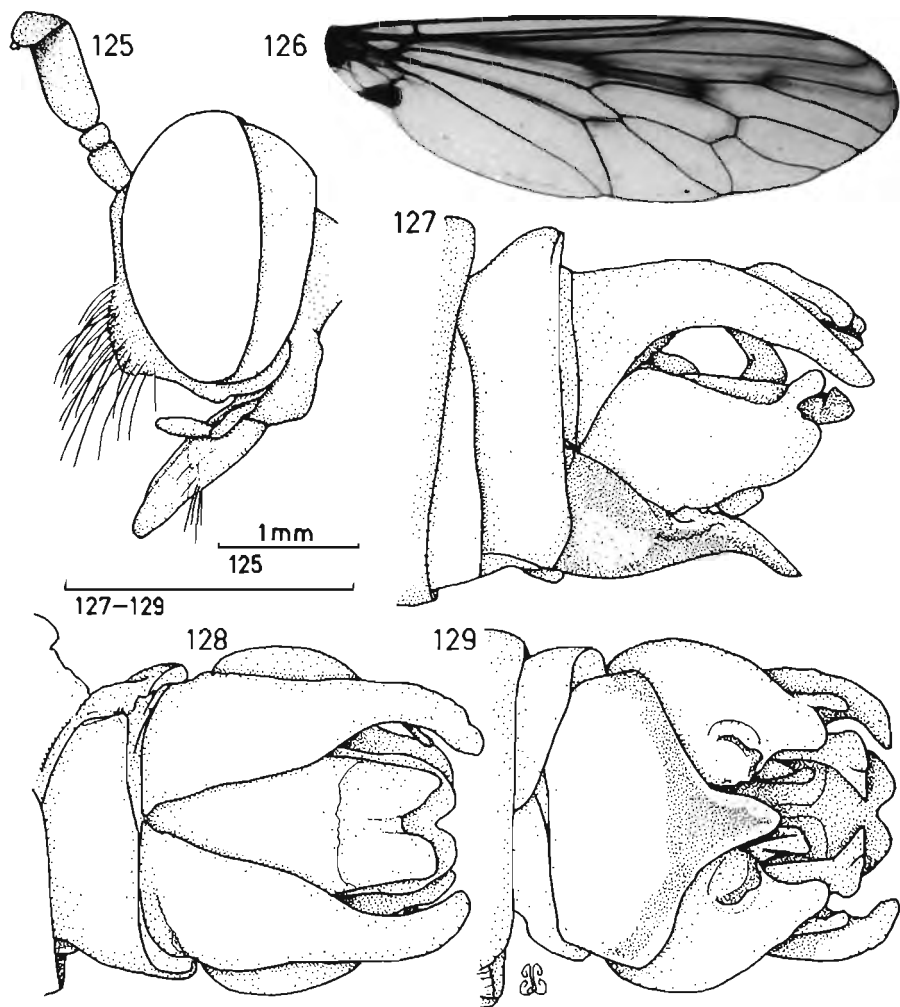
128); hypd wider than long with fairly sharply pointed distomedial process; goncx with well-developed lobe-like dorsal process (Fig. 127).

Paratypes: 4 ♂ 10 ♀ similar to holotype.

Material examined:

Holotype: ♂, SOUTH AFRICA: 'S Africa Cape 26 / 18 km N of Sutherland / 32°16'S:20°41'E 1350 m / Date: 26.xi.1990 / Londt & Whittington / Renosterrivier area' (NMSA – Type No. 452).

Other (NMSA unless otherwise indicated): SOUTH AFRICA: *Cape Province*: 1 ♀ **paratype**, 23 km N of Middelpos, 31°44'S:20°14'E, 1170 m, 29.xi.1990,



Figs 125–129. *Scylaticus loewi* sp. n. 125. Head, lateral (Sutherland paratype ♂). 126. Wing (Sutherland paratype ♀). 127–129. Male genitalia (Sutherland paratype ♂). 127. Lateral. 128. Dorsal. 129. Ventral.

Whittington & Londt, At Kookfontein River; 1 ♀ **paratype**, 43 km SE of Middelpoort, 31°58'S:20°35'E, 1270 m, 28.xi.1990, Londt & Whittington, Near Renosterrivier; 4 ♂ 8 ♀ **paratypes**, data as for holotype (1 ♂ 1 ♀ paratypes BMNH).

Distribution (Tables 2–3): Desert & Poor Steppe climatic region of South Africa.

Habits: Adults active during the first half of summer (Table 1) in high lying areas experiencing low rainfall (and snow), mainly during winter. Collected in very short herbage growing on hard-baked ground along the banks of riverbeds (with little flowing water). One female was collected with prey – Hemiptera: Lygaeidae, nymph.

Relationships: A member of the *costalis* group comprising four species, namely *costalis*, *braunsi*, *bunohippus* and *loewi*. Two other species, *camptus* and *albofasciatus* may be more distantly related.

### *Scylaticus marginatus* Engel, 1932

Figs 130–133

*Scylaticus marginatus* Engel, 1932: 281; Hull, 1962: 145; Oldroyd, 1980: 368.

Etymology: L. *margo* = border. Presumably referring to the silver pruinose lower parts of pleura and lateral abdominal stripe mentioned by Engel.

Engel (1932) listed his material studied as follows: '4♀♀, Jonkers Hoek, Stellenbosch, x–xii.1925 (Dr Brauns); 2♂♂, from the same locality. Type in Zool. Staatssammlung, Munich'. I have seen a male specimen labelled 'Type von *Scylaticus marginatus* sp. n.' from ZSMC and so presume that this is the specimen Engel selected as 'type', even though it bears no indication that it was collected at Jonkershoek (this information may have been provided in personal communications between Brauns and Engel). With this assumption I consider the specimen adequately designated as holotype and accept the other specimens, which I have not studied, as paratypes.

Redescription: Based on holotype ♂ unless otherwise stated.

**Head** (Fig. 130 topotypic ♂): Dark red-brown to black; silver pruinose. Antenna dark red-brown to black; setae black; proportional lengths of segments – 1 : 0,5 : 1,9 : 0,4; flagellum relatively short, microsegment subcylindrical with small terminal seta. Width of eye: width of face ratio 1,8 : 1. Mystax black; occupying ca. 60% of facial depth on well-developed gibbosity (Fig. 130). Palpus dark brown to black. Proboscis dark red-brown; straight.

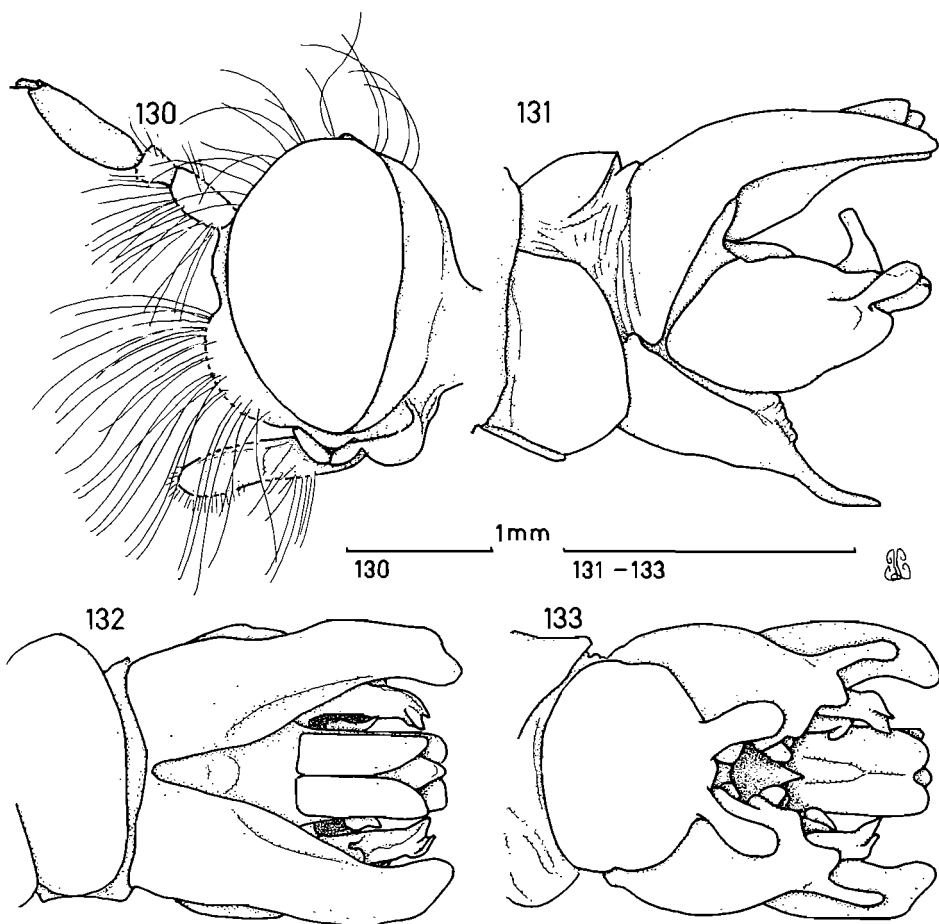
**Thorax**: Msn dark brown, including ppn lb and postalar region; silver pruinose, especially lateral margins. Macrosetae long black: ca. 6 npl plus long setae; 2–3 spal plus long setae; 3–4 pal plus long setae; acr undifferentiated; dc long, thin, difficult to differentiate from more minor (setae. Sctl with ca. 6 black marginal macrosetae plus white setae; disc with few shiny white setae. Pleura brown; gold and silver pruinose; ktg macrosetae mixed black and white. Prst unremarkable. Wing: 5,7 × 2,2 mm; cell m<sub>3</sub> widely open and cup narrowly open; membrane transparent except for slight brownish stain; microtrichia evenly distributed over

wing. Hlt: Yellow stalk, dark brown knob. Legs: Dark red-brown to black, dorsal parts of femora paler brown-yellow; fem 3 length 3,0 mm, setae long, black and white; cx 1 setae white.

**Abdomen:** Dark red-brown, tergal margins silver pruinose, especially T6; setation long white on T1 – 3, shorter dark red-brown T4 – apex. Genitalia (Figs 131–133 topotypic ♂ illustrated): rotated 90° anticlockwise; epandl slightly divergent, fairly slender distally in lateral view (Fig. 131); hypd longer than wide with pair of lobe-like distomedial processes; goncx with well-developed lobe-like dorsal process (Fig. 131).

**Material examined:**

Holotype: ♂, SOUTH AFRICA: 'Capland / Stellenbosch [33°56:18°51'E] / 2.xii.1925 / Dr. H. Brauns', 'Sammlung / E. Engel', 'Type von / *Scylaticus / marginatus* / sp. n.', '*Scylaticus* ♂ / *marginatus* / Eng. / det. E. O. Engel' (ZSMC).



Figs 130–133. *Scylaticus marginatus* Engel, 1932. 130. Head, lateral. 131–133. Male genitalia. 131. Lateral. 132. Dorsal. 133. Ventral. (Stellenbosch topotypic ♂).

Other: SOUTH AFRICA: *Cape Province*: 5 ♂ 4 ♀, same data as holotype but dates – 25.xi (1 ♂ 1 ♀) 1.xii (1 ♂) 2.xii. (2 ♂ 3 ♀) 1925 (NMSA); 2 ♀, Stellenbosch, 1.xii.1924, Dr. Brauns (NMSA); 1 ♀, Jonkershoek [33°58'S: 18°58'E], 11.xii.1979, G. Giliomee (NMSA); 1 ♀, Ceres [33°22'S:19°19'E], xi.1920, R. E. Turner, Brit. Mus. / 1920–497 (BMNH); 5 ♂ 2 ♀ 1, Wit River Valley [33°35'S:19°08'E], Bains Kloof, xii.1949, Mus. Exp. (SAMC).

Distribution (Tables 2–3): Mediterranean climatic region of South Africa.

Habits: Adults apparently active during mid summer (Table 1) in a winter rainfall region.

Relationships: Although somewhat different, it is possible that *marginatus* belongs to the *danus* group, comprising *danus* and *entrichus*.

### **Scylaticus melanus** sp. n.

Figs 134–137

Etymology: Gr. *melanos* = black. Refers to the black coloration.

Description: Based on holotype ♂.

*Head* (Fig. 134): Dark red-brown to black; greasy. Antenna dark red-brown to black; setae black; proportional lengths of scape and pedicel – 1 : 0,7, other segments broken off and missing. Width of eye: width of face ratio 2,0 : 1. Mystax black; occupying ca. 50% of facial depth on moderate gibbosity. Palpus dark brown to black. Proboscis dark red-brown; straight.

*Thorax*: Msn dark red-brown to black, pprn lb and posterior region yellow brown; greasy. Macrosetae black: 2 npl; 1 spal plus setae; ca. 4 weak pal plus long setae; acr undifferentiated; dc weak, thin, difficult to differentiate from more minor setae. Sctl with 4 black marginal macrosetae plus smaller setae; disc bare (few black setae near margin). Pleura dark red-brown to black; greasy; many fine black setae; ktg macrosetae black. Prst unremarkable. Wing: 10,4 × 3,7 mm; cell m<sub>3</sub> widely open and cup narrowly open; membrane transparent but pale brown-yellow stained (♀ brownish); microtrichia evenly distributed over wing. Hlt: Brown-yellow knob, dark brown stalk. Legs: Brown-yellow, but progressively darker toward tarsi which are red-brown; fem 3 length 5,6 mm, setae short, black; cx 1 setae black.

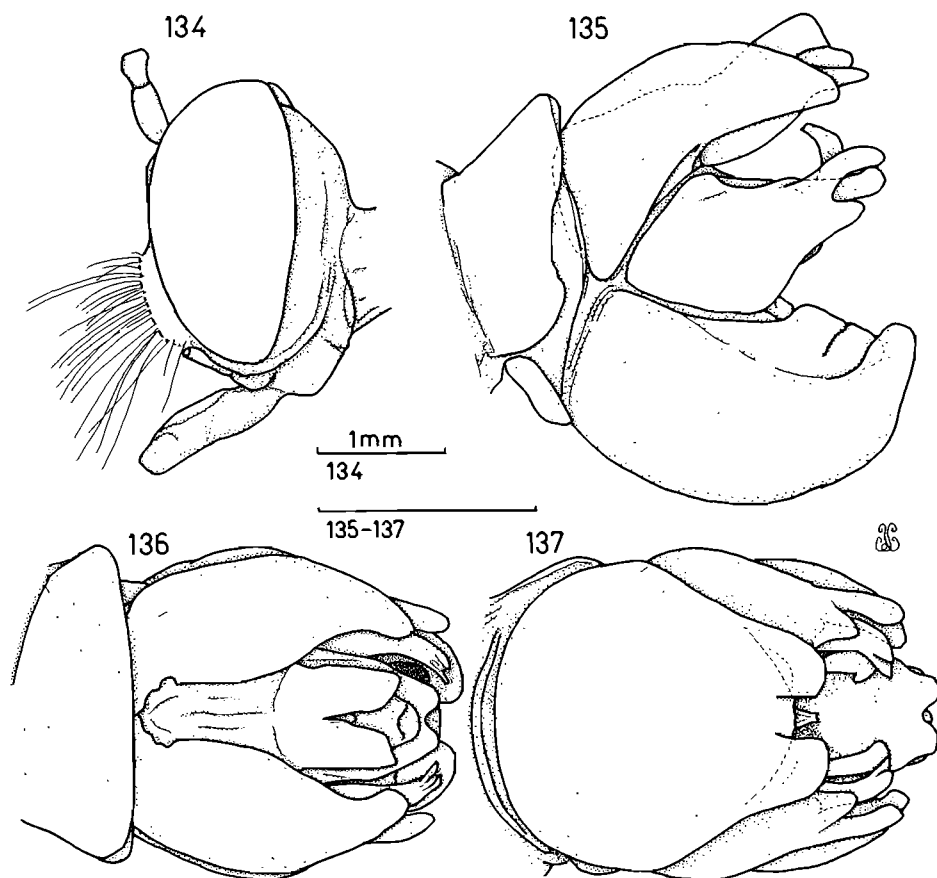
*Abdomen*: Dark red-brown to black; greasy; setation black. Genitalia (Figs 135–137): rotated 90° clockwise; epancl relatively short (shorter than goncx), tapering distally; hypd longer than wide with distal margin indented medially; goncx with well-developed lobe-like dorsal process (Fig. 135).

Paratypes: 2 ♀ similar to holotype.

Material examined:

Holotype: ♂, NAMIBIA: 'South West Africa 2617Ca / Bethanien Dist. 15 km. W. / Goageb, 1100 m. 19 – ii – 1974 / ME Irwin, sandy river bed' (NMSA – Type No. 453).

Other (NMSA except where indicated): 1 ♀ **paratype**, 10m [miles] N of



Figs 134–137. *Scylaticus melanus* sp. n. 134. Head, lateral. 135–137. Male genitalia. 135. Lateral. 136. Dorsal. 137. Ventral. (Bethanien holotype ♂).

Vioolsdrift [28°50'S:17°39'E], Gt. Namaquald., 13.ix.1950, C. Koch & G. van Son. SOUTH AFRICA: *Cape Province*: 1 ♀ **paratype**, Naib [29°21'S:18°20'E] or Bushmanland Btw Springbok and Pella, x.1939, Mus. Staff (SAMC). SAMC Type No. 5492.

Distribution (Tables 2–3): Desert & Poor Steppe climatic region of Namibia and the northern Cape Province of South Africa.

Habits: The few specimens available were collected at very different times of the year (Table 1) in arid areas experiencing low summer rainfall. It is possible that the species flies from early to late summer.

Relationships: A distinctive species with no obvious affiliations with other Afrotropical species.



**Scylaticus midas** sp. n.

Figs 138–143

Etymology: Gr. *Midas* = mythical king at whose touch everything turned to gold. Refers to the strong golden pruinescence.

Description: Based on holotype ♂.

**Head** (Figs 138–139): Dark red-brown to black; strongly silver pruinose face except for pair of small black spots just below antennal bases, rest silver-gold pruinose. Antenna dark red-brown; setae yellow; proportional lengths of segments – 1 : 0,6 : 2,9 : 0,3; microsegment subcylindrical with terminal pit-enclosed seta, flagellum with apparent sensory area anteroventrally. Width of eye: width of face ratio 1,4 : 1. Mystax yellow; occupying ca. 40% of facial depth on slight gibbosity (Fig. 138). Palpus dark brown to black. Proboscis dark red-brown; straight.

**Thorax**: Msn dark red-brown to black including pprn lb and posterior region; strongly gold pruinose; pair of darkish mediolongitudinal stripes. Macrosetae yellow: 5 npl plus setae; 3 spal plus setae; 4 pal plus setae; acr undifferentiated; ca. 5 pairs postsutural dc. Sctl with 4 yellow marginal macrosetae plus smaller setae; disc bare (2 small yellow setae extend from margin). Pleura dark red-brown; strongly gold pruinose; ktg macrosetae yellow. Prst (Fig. 140) unremarkable. Wing: 5,5 × 2,2 mm; cell  $m_3$  widely open and cup narrowly open; membrane transparent and unstained; microtrichia evenly distributed over wing. Hlt: Brown-yellow stalk, yellow knob. Legs: Femora and tibiae brown-yellow anteriorly, dark red-brown posteriorly; tarsi more extensively dark red-brown; fem 3 length 3,2 mm, setae pale yellow; cx 1 setae pale yellow.

**Abdomen**: Dark red-brown and brown-yellow (terga become increasingly yellowish towards distal end); strongly gold pruinose; setation pale yellow. Genitalia (Figs 141–143): rotated 90° anticlockwise; epandl more or less parallel-sided, tips gently inward turned; hypd much shorter than wide (exposing details of goncx bases and phallus) with mediodistal marginal projection; goncx with well-developed lobe-like dorsal process (Fig. 141).

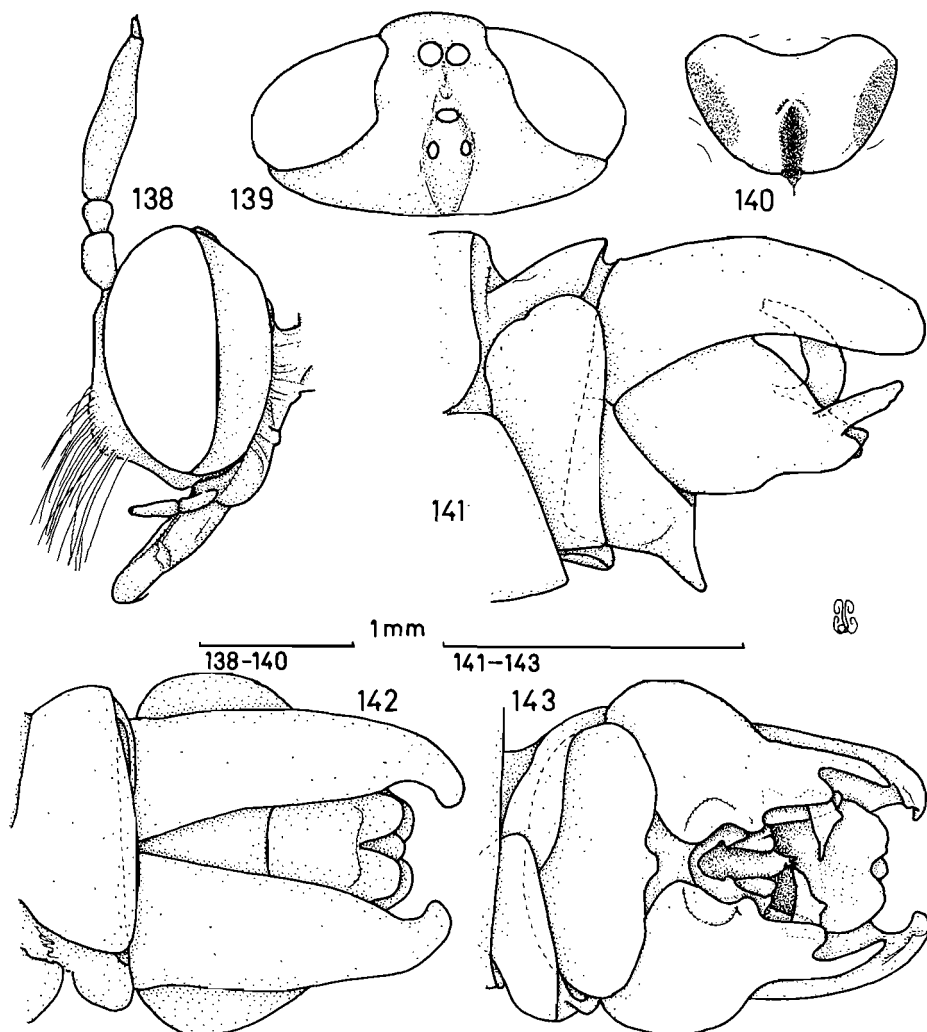
**Paratypes**: 1 ♀, rather different from the holotype but thought to be conspecific. Coloration more extensively yellow. Msn brown-yellow with three black stripes (mediolongitudinal one being longer than those more laterally situated); legs very largely yellowish except for small brownish patches on anterior surfaces of femora. Gold pruinescence not as well developed as in ♂.

Material examined:

**Holotype**: ♂, SOUTH AFRICA: 'Sth Africa: Cape Prov. / Roaring Sands Resort / nr. Witsand. *Acacia* / Woodland/Sandy area / 2822CB 17–18.3.1982 / J. Londt & L. Schoeman' (NMSA – Type No. 454).

**Other**: SOUTH AFRICA: *Cape Province*: 1 ♀ **paratype**, same data as holotype (NMSA).

**Distribution** (Tables 2–3): Desert & Poor Steppe climatic region of South Africa.



Figs 138–143. *Scylaticus midas* sp. n. 138–139. Head. 138. Lateral. 139. Dorsal. 140. Prosternum. 141–143. Male genitalia. 141. Lateral. 142. Dorsal. 143. Ventral. (Roaring Sands holotype ♂).

**Habits:** Adults presumably active during late summer (Table 1) in an area experiencing low summer rainfall. Types collected on sandy ground in *Acacia* woodland area.

**Relationships:** A member of the *midas* species-group along with *pardalotus*.

**Scylaticus namibiensis** sp. n.

Figs 144–151

**Etymology:** Named after the country of origin – Namibia.

**Description:** Based on holotype ♂ unless otherwise stated.

**Head** (Figs 144–146): Dark red-brown to black; gold-silver pruinose. Antenna (Fig. 146) dark red-brown; setae white; proportional lengths of segments – 1 : 0,7 : 2,5 : 0,4; microsegment subterminal, of unusual development, with terminal pit-enclosed seta. Width of eye: width of face ratio 1,5 : 1. Mystax white; occupying ca. 70% of facial depth on welldeveloped gibbosity (Fig. 144). Palpus dark brown to black. Proboscis dark red-brown; straight.

**Thorax:** Msn dark red-brown to black including pprn lb and posterior region; gold pruinose, especially laterally, darkish mediolongitudinal stripes. Macrosetae yellow: 4 npl plus setae; ca. 10 spal plus setae; ca. 20 pal plus setae; acr undifferentiated; dc not clearly differentiated or obscured by good cluster of long yellow setae. Sctl with ca. 14 yellow marginal macrosetae plus smaller setae; disc bare (few marginal setae overhang it). Pleura dark red-brown; gold-silver pruinose; ktg macrosetae white. Prst (Fig. 147) unremarkable. Wing: 6,0 × 2,1 mm; cell  $m_3$  widely open and cup narrowly open; membrane transparent and unstained; microtrichia evenly distributed over wing. Hlt: Brown stalk, yellow knob. Legs: Uniformly dark red-brown; fem 3 length 3,6 mm, setae pale yellow and white (few darker ones distally); cx 1 setae white.

**Abdomen:** Dark red-brown to black; distal third of terga silver pruinose; setation long white, especially on T1–2. Genitalia (Figs 148–151 paratype): rotated 90° anticlockwise; epan dl relatively short (a number of other structures extend beyond them); hypd wider than long with pair of distal lobes (may be upward or downward directed); goncx with large, well developed, club-like dorsal process projecting beyond epan dl and other parts of goncx (Fig. 148).

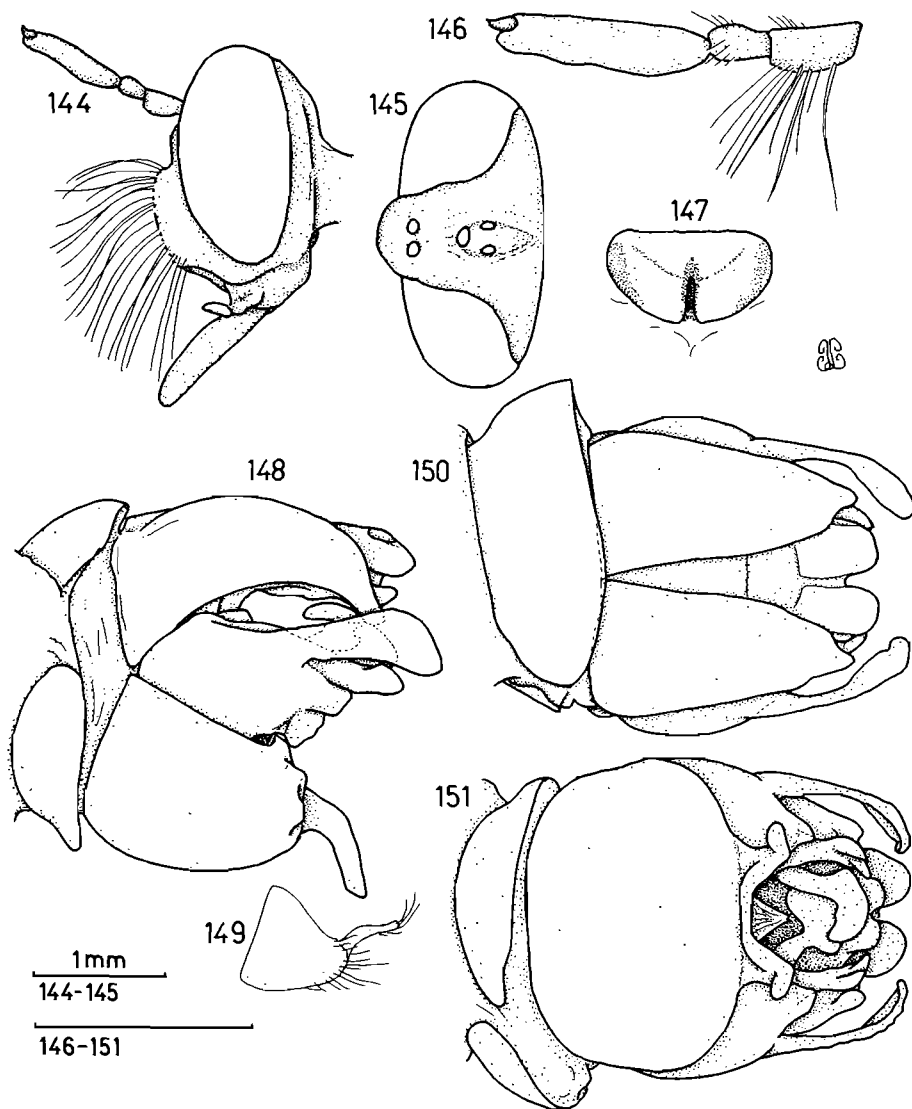
**Paratypes:** 23 ♂ 13 ♀ similar to holotype. Moderate variation in size (wing length range 5,1–8,5 mm), ♀ generally larger than ♂.

**Material examined:**

**Holotype:** ♂, NAMIBIA: 'Namibia 26.iii.1984 / 54km S Khorixas. Road / 76. 20 43S:14 49E / Londt & Stuckenberg / Roadside grass and / flowers, sandy area.' (NMSA – Type No. 455).

**Other (NMSA unless otherwise indicated):** NAMIBIA: 4 ♂ **paratypes**, Kaross [19°30'S:14°20'E], ii.1925, Mus. Exped. (SAMC); 1 ♂ 5 ♀ **paratypes**, Kamanyab [Kamanjab – 19°38'S:14°50'E], iii.1925, Mus Exped. (SAMC); 2 ♂ 2 ♀ **paratypes**, same data as holotype; 1 ♂ **paratype**, Delhi, 2015BC, Outjo, 15.iii.1979, V. B. Whitehead (SAMC); 1 ♀ **paratype**, 30 km S Omaruru. Road 2/3, 21 41S: 15 57E, 27.iii.1984, Stuckenberg & Londt, Sparse Acacia scrub in cattle pasture; 1 ♀ **paratype**, 87 km SE Otjiworongo, Rd. 57, 21 03S:17 10E, 19.iii.1984, Stuckenberg & Londt, Acacia woodland with long grass in seed; 2 ♂ 1 ♀ **paratypes**, Gross Barmen Resort, 22 07S:16 42E, 29.iii.1984, Londt & Stuckenberg, Roadside grass & dry river bed at camp; 5 ♂ 1 ♀ **paratypes**, 26 km

N Windhoek, Road 1/6, 22 20S:17 04E, 29.iii.1984, Londt & Stuckenberg, Dry stream bed Acacia riparian woodland; 1 ♂ **paratype**, 60 km N Grünau [27°44'S:18°23'E], 17.iv.1980, V. B. Whitehead (SAMC). SOUTH AFRICA: *Cape province*: 7 ♂ 2 ♀ **paratypes**, 14 km S of Hotazel, 27 19S:22 54E, 1050 m, 14.iii.1991, Londt & Whittington, Ga-Mogara River bed (1 ♂ 1 ♀ BMNH). SAMC – Type No. 5493.



Figs 144–151. *Scylaticus namibiensis* sp. n. 144–146. Head. 144. Lateral. 145. Dorsal. 146. Left antenna. 147. Prosternum. 148–151. Male genitalia. 148. Lateral. 149. Hypandrium, dry (holotype ♂). 150. Dorsal. 151. Ventral. (Khorixas paratype ♂).

Distribution (Tables 2–3): Desert & Poor Steppe, Botswana & Northern Namibian, and northern part of the South & North Steppe climatic regions of southern Africa.

Habits: Adults presumably active during late summer (Table 1) in an area experiencing low summer rainfall. The species settles on open sandy ground, often at the bases of grass tussocks, in grassland or *Acacia* woodland situations.

Relationships: A unique species which cannot be allocated to one of the identified species-groups.

***Scylaticus pardalotus* sp. n.**

Figs 152–156

Etymology: Gr. *pardalotos* = spotted like a leopard. Referring especially to the patterned mesonotum.

Description: Based on holotype ♂ unless otherwise stated.

**Head** (Fig. 152): Dark red-brown; face and frons silver pruinose rest browngold pruinose. Antenna (Fig. 152) dark red-brown; setae yellow; proportional lengths of segments – 1 : 0,4 : 3,1 : 0,3 (Willowmore paratype as holotype without flagellum); microsegment subcylindrical with small terminal pit-enclosed seta. Width of eye: width of face ratio 1,5 +: 1. Mystax yellow, occupying *ca.* 50% of facial depth on slight gibbosity. Palpus brown-orange (contrasting with proboscis). Proboscis dark red-brown; straight.

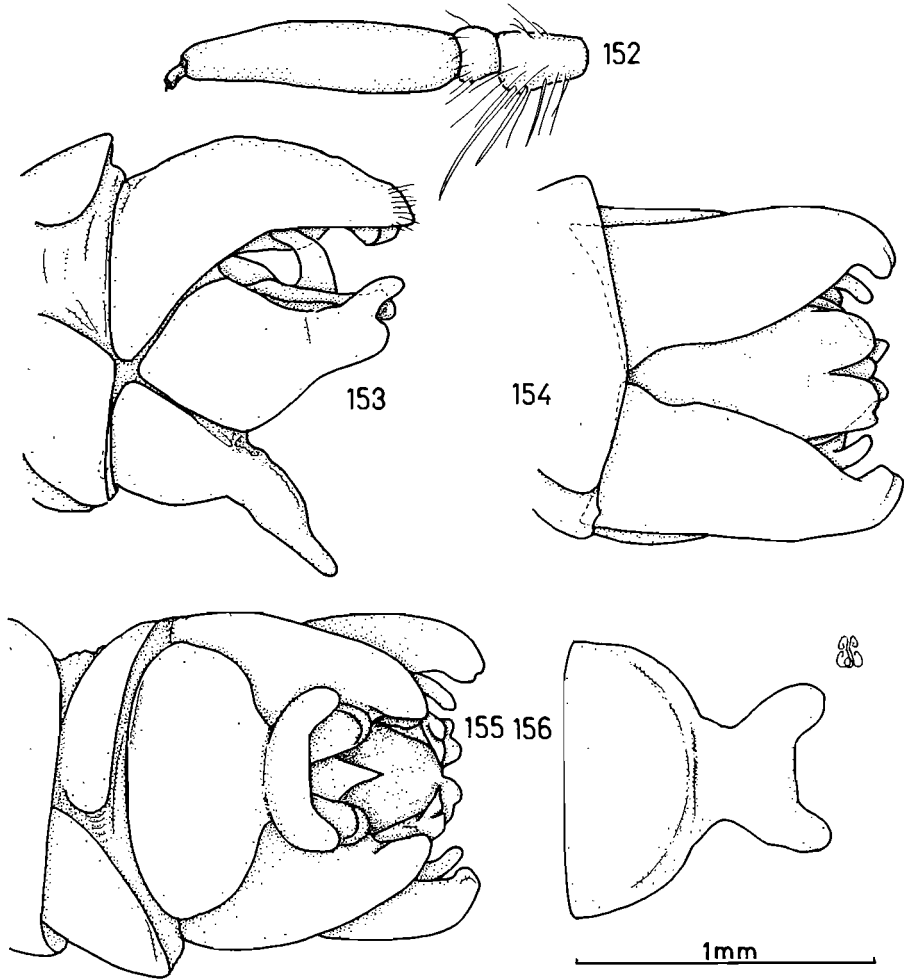
**Thorax**: Msn dark red-brown with yellow-brown pprn lb and postalar calli; patches of silver, gold and brown pruinescence (intricate pattern). Macrosetae yellow: 6–7 npl plus setae; 4 spal plus setae; 5 pal plus setae; acr undifferentiated; *ca.* 6 pairs dc postsuturally. Sctl with *ca.* 6 yellow marginal macrosetae plus smaller setae; disc with few white setae laterally (extension of marginal setae). Pleura dark red-brown; gold and silver pruinose; ktg macrosetae yellow. Prst unremarkable. Wing: 5,0 × 2,0 mm; cell  $m_3$  widely open and cup narrowly open; membrane transparent, slightly yellow stained along veins; microtrichia evenly distributed over wing. Hlt: Yellow-brown. Legs: Femora dark red-brown dorsally, brown-orange ventrally; tibiae dark red-brown ventrally, brown-orange dorsally; tarsomeres orange-brown, dark red-brown distally; fem 3 length 3,1 mm, setae pale yellow or white; cx 1 setae pale yellow.

**Abdomen**: Dark red-brown to black, hind margins of distal terga (from T4) brown-orange; pattern of silver pruinescence; setation long yellow-white, especially on T1 and T2. Genitalia (Figs 153–156 paratype): rotated 90° anticlockwise; epandl more or less parallel-sided, tips bent inward; hypd about as long as wide, somewhat spatulate (in dry condition), constricted at midlength and with broad U-shaped distomedial margin; goncx with well-developed, dorsal process (Fig. 153).

Paratypes: 15 ♂ 3 ♀ (one somewhat greasy) similar to holotype.

Material examined:

Holotype: ♂, SOUTH AFRICA: 'Capland / Willowmore [33°17'S:23°30'E] / 15.12 1917, Dr. Brauns'. (NMSA – Type No. 457).



Figs 152–156. *Scylaticus pardalotus* sp. n. 152. Left antenna. 153–156. Male genitalia. 153. Lateral. 154. Dorsal. 155. Ventral. 156. Hypandrium viewed flat. (Willowmore paratype ♂).

Other (NMSA unless otherwise indicated): SOUTH AFRICA: *Cape Province*: 1 ♂ **paratype**, 43 km SE Middelpos, 31°58'S:20°35'E, 1270 m, 28.xi.1990, Londt & Whittington, Near Renosterrivier; 1 ♀ **paratype**, Murraysburg [31°57'S:23°46'E], xi.1935, Mus. Staff (SAMC); 1 ♂ **paratype**, Steynsburg [31°20'S:25°50'E] Dist., x.1935, Mus. Staff (SAMC); 1 ♂ **paratype**, Tankwa [ca. 32°30'S:19°45'E] Karoo, i.1949, Zinn-Hesse Mus. Exp. (SAMC); 4 ♂ 1 ♀ **paratypes**, Thee Kloof [32°10'S:21°37'E], Fraserburg Div., xi.1935, Mus. Staff (SAMC); 3 ♂ **paratypes**, Aberdeen [32°29'S:24°05'E], xi.1935, Mus. Staff (SAMC); 4 ♂ 1 ♀ **paratypes**, Somerset East [32°43'S:25°35'E], 25–30.xi.1930, R. E. Turner (BMNH); 1 ♂ **paratype**, same data as holotype but 5.xi.1916. SAMC Type No. 5495.

Distribution (Tables 2–3): Southern parts of Desert & Poor Steppe, Little &

Great Karoo, and southern parts of the South & North Steppe climatic region of South Africa.

Habits: Adults apparently active during mid summer (Table 1) in an area experiencing low summer rainfall. Middelpoos specimen collected on sandy ground amongst grass and small woody shrubs.

Relationships: Together with *midas* forms the *midas* species-group.

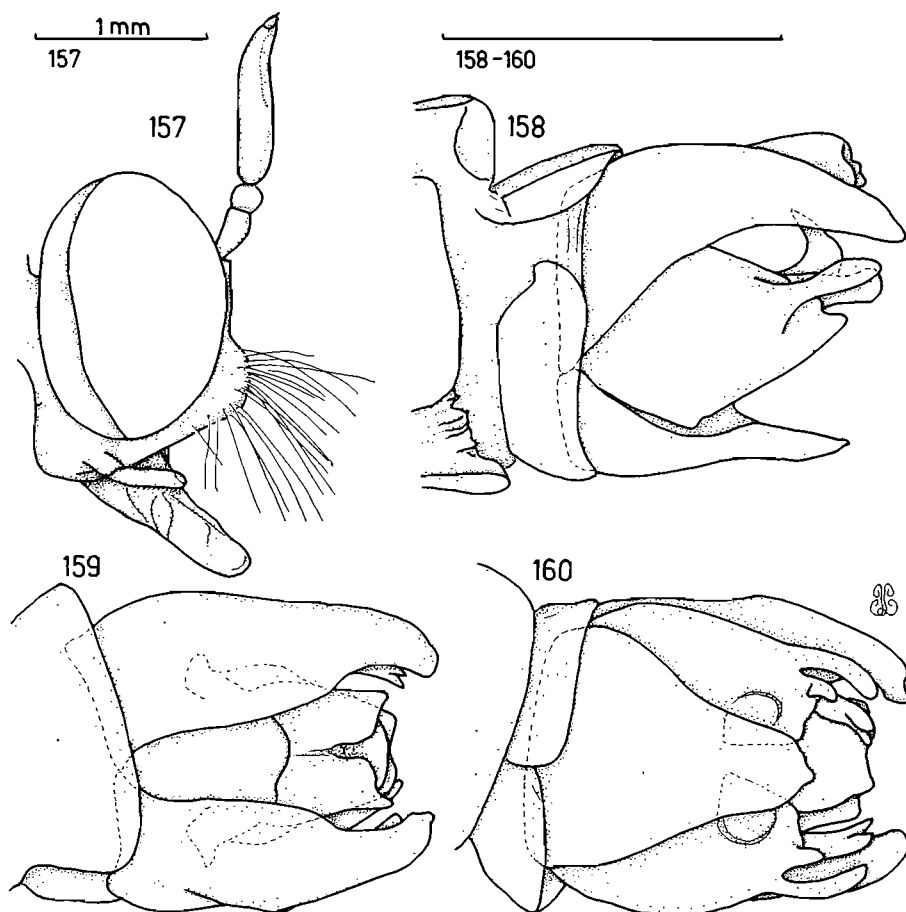
***Scylaticus phaeus* sp. n.**

Figs 157–160

Etymology: Gr. *phaios* = brown. Refers to the brownish coloration.

Description: Based on holotype ♂.

*Head* (Fig. 157): Dark red-brown; silver pruinose. Antenna dark brown; setae dark red-brown; proportional lengths of segments – 1 : 0,5 : 3,1 : 0,4;



Figs 157–160. *Scylaticus phaeus* sp. n. 157. Head, lateral. 158–160. Male genitalia. 158. Lateral. 159. Dorsal. 160. Ventral. (Matjiesfontein holotype ♂).

microsegment subcylindrical with small terminal pit-enclosed seta. Width of eye: width of face ratio 1,6 : 1. Mystax dark red-brown occupying *ca.* 40% of facial depth on moderate gibbosity. Palpus dark red-brown. Proboscis dark red-brown; straight.

*Thorax*: Msn dark red-brown including pprrn lb and posterior parts; brown and silver pruinose. Macrosetae dark red-brown: 2 npl; 2 spal plus setae; 2 pal; acr undifferentiated; *ca.* 5 pairs dc postsuturally. Sctl with *ca.* 4 dark red-brown marginal macrosetae plus smaller setae; disc bare. Pleura dark red-brown; silver pruinose; ktg macrosetae dark red-brown. Prst unremarkable. Wing:  $5,7 \times 2,1$  mm; cell  $m_3$  widely open and cup narrowly open; membrane brown-stained; microtrichia evenly distributed over wing. Hlt: Knob and base brown, central stalk paler. Legs: Dark red-brown but femora orange-brown dorsally; fem 3 length 2,9 mm, setae brown except for row of black macrosetae; cx 1 setae white.

*Abdomen*: Dark red-brown to black (rather shiny); silver pruinose, especially lateral margins; T1 with dark brown macrosetae and brown-yellow setae, other terga with brown setae. Genitalia (Figs 158–160 paratype): rotated 90° anticlockwise; epandl more or less parallel-sided, tips bent inward; hypd longer than wide, subtriangular, with small terminal process; goncx with well-developed, dorsal process (Fig. 158).

Paratypes: 1 ♀ similar to holotype.

Material examined (BMNH):

Holotype: ♂, SOUTH AFRICA: 'Cape Province / Matjiesfontein [33°13'S: 20°35'E] / 14–27.xi.1928', 'S. Africa / R. E. Turner / Brit. Mus. / 1928–542'.

Other: SOUTH AFRICA: *Cape Province*: 1 ♀ **paratype**, same data as holotype but 1–18.xii.1928.

Distribution (Tables 2–3): Little & Great Karoo climatic region of South Africa.

Habits: Adults apparently active during mid summer (Table 1) in an area experiencing low winter rainfall.

Relationships: Together with *ricardoae* makes up the *phaeus* species-group.

### *Scylaticus quadrifasciatus* Engel & Cuthbertson, 1934

Figs 161–168

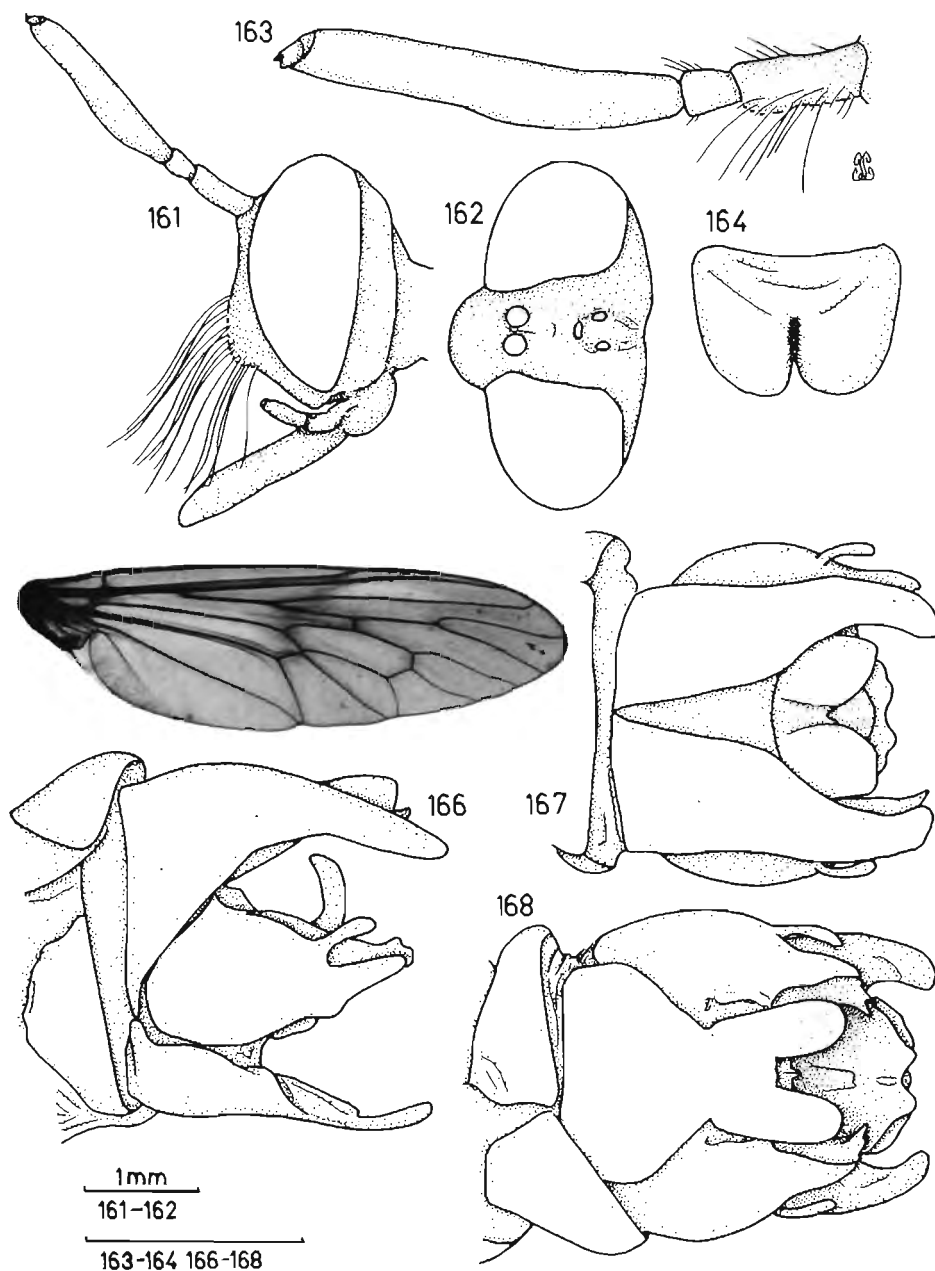
*Scylaticus quadrifasciatus* Engel & Cuthbertson, 1934: 44; Hull, 1962: 145; Oldroyd, 1980: 368.

Etymology: L. *quattuor* = four + *fascia* = bands. Refers to 'four black transverse bands on the tergites of the abdomen' which are actually the black shiny anterior parts of T2–T5.

Redescription: Based on holotype ♂ unless otherwise stated.

*Head* (Figs 161–163 Kasungu ♂): Dark red-brown to black; silver pruinose (dark interocular band through ocellarium). Antenna dark red-brown; setae shiny white; proportional lengths of segments – 1 : 0,5 : 3,6 : 0,3 (Malawi ♂ as





Figs 161-168. *Scylaticus quadrifasciatus* Engel & Cuthbertson, 1934. 161-163. Head. 161. Lateral. 162. Dorsal. 163. Left antenna. 164. Prosternum. 165. Wing. 166-168. Male genitalia. 166. Lateral. 167. Dorsal. 168. Ventral. (Kasungu ♂).

holotype antennae mostly missing); flagellum rather long; microsegment apparently 2-segmented, subcylindrical, with small terminal pit-enclosed seta. Width of eye: width of face ratio 1,6 : 1. Mystax shiny white occupying *ca.* 50% of facial depth on slight gibbosity. Palpus red-brown. Proboscis dark red-brown; straight.

*Thorax*: Msn dark red-brown including pprr lb and posterior parts; silver pruinose, especially lateral margins. Macrosetae white: 3 npl; 3 spal; 5 pal plus setae; acr undifferentiated; 3–4 pairs dc postsuturally. Sctl with *ca.* 8 pale yellow marginal macrosetae plus smaller white setae; disc with white setae. Pleura dark red-brown; silver pruinose; ktg macrosetae white (with bent tips). Prst (Fig. 164 Kasungu ♂) unremarkable. Wing (Fig. 165 Kasungu ♂): 8,3 × 2,9 mm; cell *m*<sub>3</sub> open and cup closed at margin (all Malawi material with cup open); membrane transparent with slight brown staining in central area; microtrichia evenly distributed over wing except for small basal areas. Hlt: Yellow-white. Legs: Uniformly dark red-brown to black; fem 3 length 4,6 mm, setae white; cx 1 setae white.

*Abdomen*: Dark red-brown (appears shiny); clear gold-silver pruinose tergal margins; setae long white. Genitalia (Figs 166–168 Kasungu ♂): rotated 90° anticlockwise; epancl more or less parallel-sided, tips bent slightly inward; hypd much longer than wide, constricted at about midlength, distal part bilobed; goncx with well-developed, dorsal process not extending further than tip of goncx (Fig. 166).

#### Material examined:

Holotype: ♂, ZIMBABWE: 'Georgia / Gatooma [18°23'S:30°01'E] / S. Rhodesia / Dept Agric / 16 Nov 1933'; 'W. L. Williams / Collector', '*Scylaticus / quadrifasciatus* / sp. n. / Dr E. O. Engel det'; '3588', 'Holotype' (NMBZ).

Other: KENYA: 1 ♂ 1 ♀, Katulani [1°29'S:37°57'E] Kitui dist., 26.x.1990, J. A. M. Jansen, malaise trap (AUWN). MALAWI: 3 ♂ 8 ♀, Kasungu Nat. Park, Lifupa Camp, 1333Aa, 9–10.xii.1980, 1000 m, Stuckenberg & Londt, *Brachystegia* (NMSA). ZAMBIA: 1 ♂, NChanga [12°31'S:27°52'E], C. T. Macnamara (BMNH). ZIMBABWE: 1 ♂, Bindura [17°18'S:31°20'E], xii.1938, Nat. Museum S. Rhodesia (NMBZ); 1 ♀, Lusulu [18°04'S:27°50'E], 22.xi.1963, A. J. Phelps (NMSA).

Distribution (Tables 2–3): Widespread in East Africa. Recorded from Northern Zambia, western Malawi, Zimbabwe and eastern Kenya.

Habits: Adults active in mid summer (Table 1) in areas experiencing summer rainfall. Malawi material collected in an area with long grass and *Brachystegia* trees. The holotype was collected with a spider (Araneidae adult ♀ nr. *Cyrtophora*) as prey.

Relationships: Although superficially different, *quadrifasciatus* appears to be most similar to the *chrysotus* group (ie. *chrysotus* and *whiteheadi*).

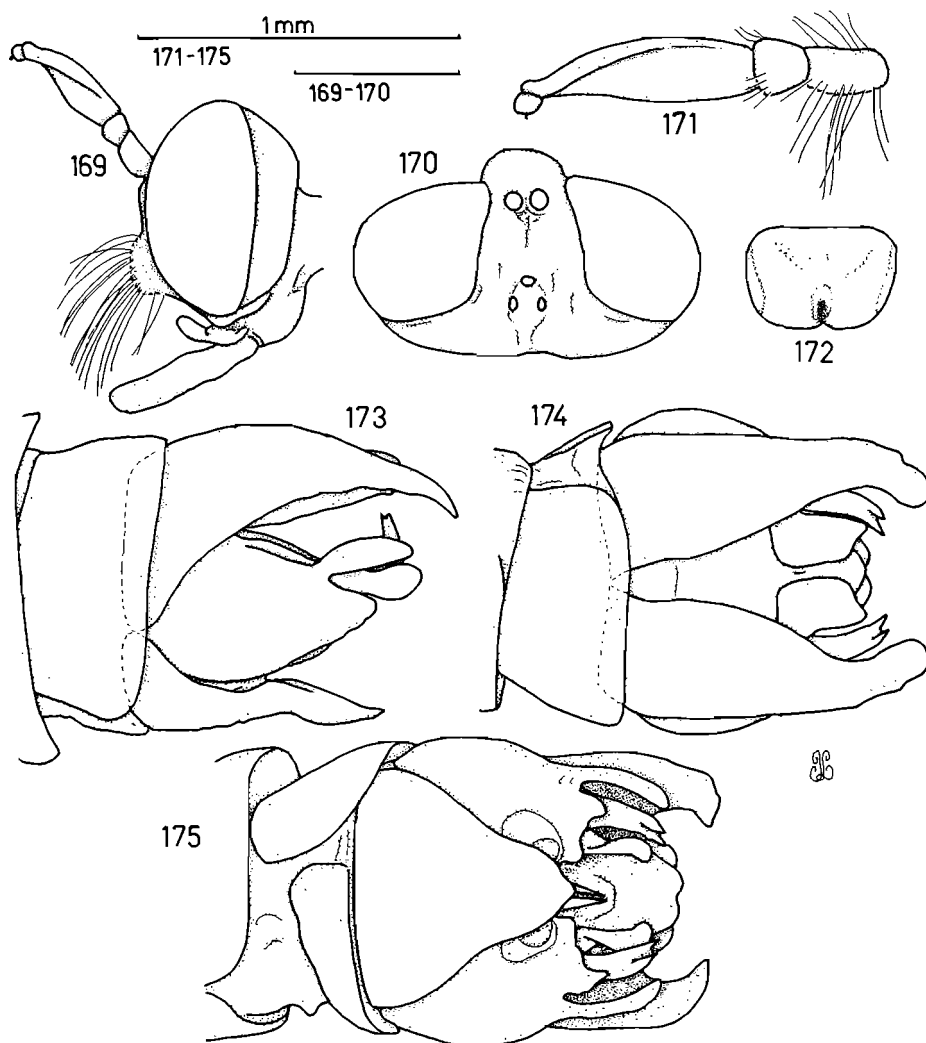
**Scylaticus ricardoae** sp. n.

Figs 169–175

**Etymology:** Named after Gertrud Ricardo in recognition of her important contribution to the study of Afrotropical Asilidae.

**Description:** Based on holotype ♂ unless otherwise stated.

**Head** (Figs 169–171): Dark red-brown to black; face silver pruinose, rest silver-gold pruinose. Antenna (Fig. 171) dark red-brown to black; setae red-brown; proportional lengths of segments – 1 : 0,7 : 2,9 : 0,3; flagellum twisted;



Figs 169–175. *Scylaticus ricardoae* sp. n. 169–171. Head. 169. Lateral. 170. Dorsal. 171. Left antenna. 172. Prosternum. 173–175. Male genitalia. 173. Lateral. 174. Dorsal. 175. Ventral. (Gamtoos holotype ♂).

microsegment subcylindrical, with small terminal pit-enclosed seta. Width of eye: width of face ratio 1,9 : 1. Mystax red-brown occupying *ca.* 50% of facial depth on moderately well-developed gibbosity (Fig. 169). Palpus dark red-brown. Proboscis dark red-brown; straight.

*Thorax:* Msn dark red-brown, pprn lb and postalar callus brown; silver pruinose, especially lateral margins. Macrosetae dark red-brown: 4 npl plus setae; 2 spal plus setae; 2 pal plus setae; acr undifferentiated; *ca.* 5 pairs dc postsuturally. Sctl with 6 dark red-brown marginal macrosetae; disc bare. Pleura largely orange-brown, lower parts somewhat darker brown; silver pruinose; ktg macrosetae orange-brown. Prst (Fig. 172) unremarkable. Wing: 4,5 × 1,7 mm; cell  $m_3$  and cup open at margin; membrane transparent with slight brown tinge; microtrichia evenly distributed over wing. Hlt: Dark brown knob, lighter brown stalk. Legs: Femora and tibiae yellow-brown dorsally, dark red-brown ventrally; tarsi dark red-brown; fem 3 length 2,6 mm, setae white; cx 1 setae white.

*Abdomen:* Dark red-brown to black, brown patches on posterolateral corners of terga; silver pruinose, especially laterally; red-brown macrosetae on T1, setae white. Genitalia (Figs 173–175): rotated 90° clockwise; epandl more or less parallel-sided, tips bent slightly inward; hypd about as long as wide, subtriangular, tapering to tip; goncx with well-developed, dorsal lobe-like process extending further than tip of goncx (Fig. 173).

Paratypes: 15 ♂ 4 ♀ similar to holotype.

Material examined:

Holotype: ♂, SOUTH AFRICA: 'Sth Africa: Cape Prov / Gamtoos river valley / 3325CC 13.xii.1979 / Stuckenberg & Londt / roadside vegetation' (NMSA – Type No. 458).

Other (NMSA unless otherwise indicated): SOUTH AFRICA: *Cape Province:* 1 ♂ **paratype**, Olifants River [31°27'S:18°32'E], bet. Citrusdal & Clanwilliam, x-xi.1931, Museum Staff; 1 ♂ **paratype**, Murraysburg [31°57'S:23°46'E], xi.1935, Mus. Staff (SAMC); 2 ♂ **paratypes**, Murraysburg Dist., xi.1935, Mus. Staff (SAMC); 1 ♂ **paratype**, Steynsburg [31°20'S:25°50'E] Div., x.1935, Mus. Staff (SAMC); 2 ♂ **paratypes**, Bulhoek [31°47'S:25°06'E], Klaver-Clanw., x.1950, Mus. Expd. (SAMC); 3 ♂ **paratypes**, Thee Kloof [Teekloof – 32°10'S:21°37'E], Fraserburg Div., xi.1935, Mus. Staff (SAMC); 3 ♂ **paratypes**, Nieuwveldt [32°10'S:22°20'E], Beaufort W Dist, xi.1935, Museum Staff (SAMC); 2 ♂ **paratypes**, Worcester, Karoo Botanic Gardens, 3319Cb, 1–2.i.1983, Miller & Stabbins; 1 ♀ **paratype**, Verkeerde Vlei [Verkeerdevelei 33°20'S:19°52'E], xii.1962, S.A.M. (SAMC); 1 ♀ **paratype**, Constable [33°16'S:20°18'E], xii.1962, S.A.M. (SAMC); 1 ♀ **paratype**, 18 m E. of Touws R. to Hondewater [33°39'S:20°46'E], xii.1962, S.A.M. (SAMC); 1 ♀ **paratype**, same data as holotype. SAMC – Type No. 5496.

Distribution (Tables 2–3): Occurs in the Mediterranean, Southern Cape Coastal, southern parts of the Little & Great Karoo region, and the South & North Steppe climatic regions of South Africa.

**Habits:** Adults apparently active during mid summer (Table 1) in areas experiencing either fairly low winter or low summer rainfall. The Gamtoos material was collected on exposed ground in a roadside ditch.

**Relationships:** Together with *phaeus* forms the *phaeus* species-group.

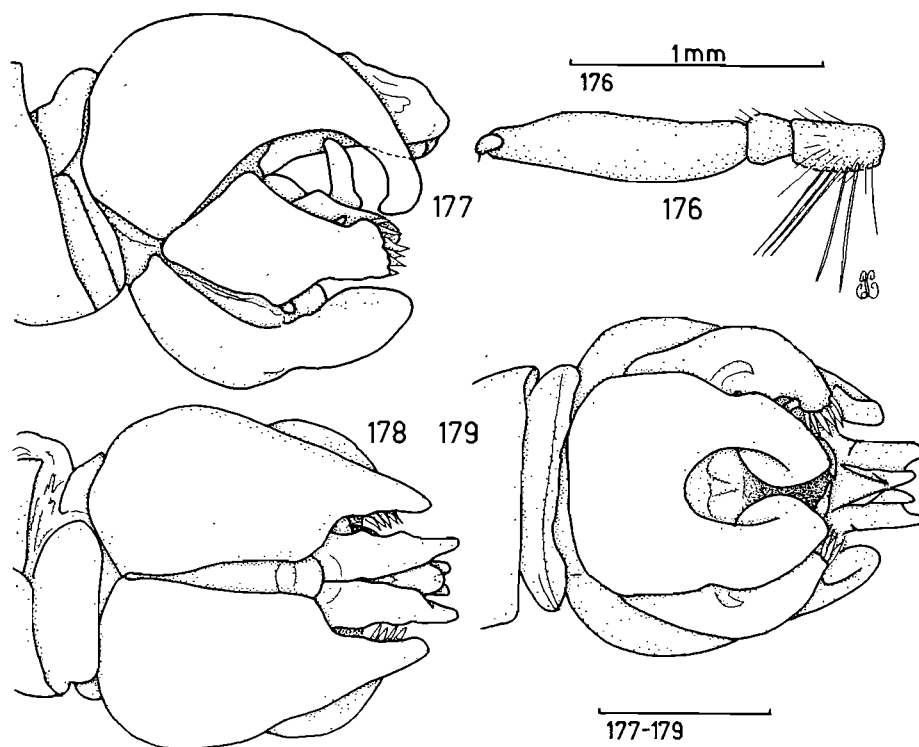
***Scylaticus thecarus* sp. n.**

Figs 176–179

**Etymology:** Gr. *thektos* = sharpened + *kara* = head. Refers to the type locality of Spitzkop (Afrikaans meaning 'pointed head' and referring to a mountain).

**Description:** Based on unique holotype ♂.

**Head:** Dark red-brown to black; silver-gold pruinose face and occiput, frons and vertex dark brown pruinose. Antenna (Fig. 176) dark red-brown to black (right antenna with flagellomere broken off); setae dark red-brown; proportional lengths of segments – 1 : 0,5 : 3,1 : 0,4; microsegment subconical with terminal seta. Width of eye: width of face ratio 2,0 : 1. Mystax white occupying *ca.* 40% of facial depth on moderately well-developed gibbosity (a small group of setae situated above main mystacal macrosetae). Palpus dark red-brown. Proboscis dark red-brown; straight.



Figs 176–179. *Scylaticus thecarus* sp. n. 176. Left antenna. 177–179. Male genitalia. 177. Lateral. 178. Dorsal. 179. Ventral. (Spitzkop holotype ♂).

*Thorax*: Msn dark red-brown to black, pprn lb and postalar callus similarly coloured; silver pruinose, especially laterally. Macrosetae yellow-brown: 4 npl; ca. 4 spal plus setae; ca. 8 pal plus setae; acr undifferentiated; dc poorly developed, interspersed with setae. Sctl with ca. 14 yellow-brown marginal macrosetae plus setae; disc asetose. Pleura dark red-brown to black; weakly gold-silver pruinose; ktg macrosetae yellow. Prst unremarkable. Wing:  $5,9 \times 2,0$  mm; cell  $m_3$  and cup open at margin; membrane with slight brown tinge; microtrichia evenly distributed over wing. Hlt: Brown-yellow knob, brown stalk. Legs (left metathoracic leg missing): Femora dark red-brown except for red-brown patch distally (anteroventrally on hind legs, posteroventrally on front two pairs); tibiae dorsally dark red-brown, ventrally yellow-brown; tarsi yellow-brown; setae white and yellow, some dark red-brown ones ventrally on tarsomeres; cx 1 setae white.

*Abdomen*: Dark red-brown to black; silver pruinose, especially posterolateral corners of terga; setae longish pale yellow. Genitalia (Figs 177–179): rotated 90° clockwise; epandl somewhat swollen dorsally and tip downcurved (Fig. 177); hypd longer than wide, deeply incised medially; goncx with thick well-developed distal macrosetae and tiny dorsal process, only partly visible in lateral view (Fig. 177).

Paratypes: None. ♀ unknown.

Material examined:

Holotype: ♂, SOUTH AFRICA: *Cape Province*: 'Spitzkop / Meirings Poort [Meiringspoort – 33°24'S:22°34'E]', 'Museum Staff / Jan. 1935'. (SAMC – Type No. 5497)

Other: None.

Distribution (Tables 2–3): Little & Great Karoo climatic region of South Africa.

Habits: Adults apparently active during mid summer (Table 1) in a primarily winter rainfall area.

Relationships: A member of the *laevinus* group comprising eight species, namely *callimus*, *gymnosternum*, *laevinus*, *gongrocercus*, *hadromedus*, *thecarus*, *trophus* and *zonatus*

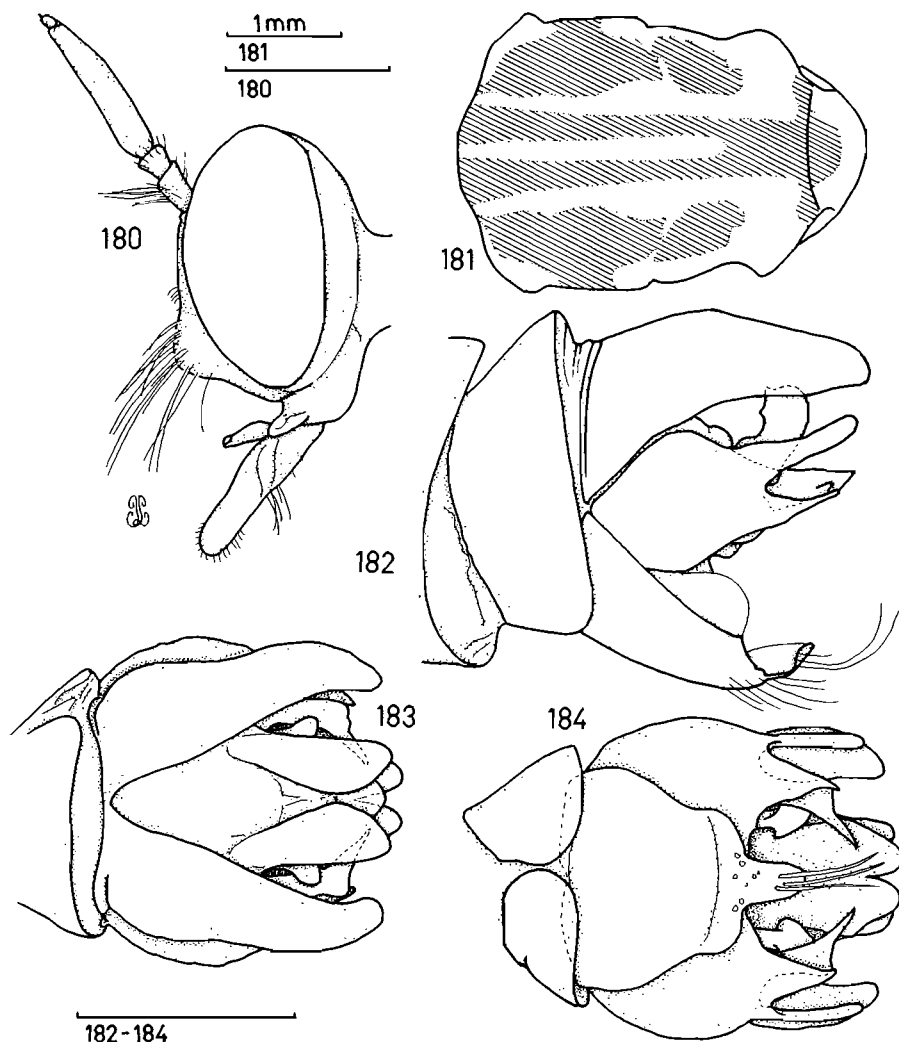
### ***Scylaticus tigrinus* sp. n.**

Figs 180–184

Etymology: Gr. *tigrios* = tiger. Refers to the stripy, brown and yellow, appearance.

Description: Based on holotype ♂.

*Head* (Fig. 180): Dark red-brown to black; silver-gold pruinose. Antenna dark brown; setae red-brown; proportional lengths of segments – 1 : 0,6 : 3,4 : 0,4; microsegment subcylindrical, with small terminal pit-enclosed seta. Width of eye: width of face ratio 1,5 : 1. Mystax red-brown occupying ca. 30% of facial depth on moderately well-developed gibbosity (a few small setae situated above main mystacal macrosetae). Palpus dark red-brown. Proboscis dark red-brown; straight.



Figs 180–184. *Scylaticus tigrinus* sp. n. 180. Head, lateral. 181. Mesonotum. 182–184. Male genitalia. 182. Lateral. 183. Dorsal. 184. Ventral. (Matjiesfontein holotype ♂).

**Thorax:** Msn dark red-brown with orange longitudinal stripes (Fig. 181), ppn lb and postalar callus orange; silver pruinose. Macrosetae red-brown: 4 npl plus setae; 2 spal plus setae; 3 pal plus setae; acr hundifferentiated; ca. 3 pairs dc postsuturally. Sctl with 4 dark red-brown marginal macrosetae plus setae; disc with 3 small orange setae. Pleura with dark red-brown and brown-orange patches; silver pruinose; ktg macrosetae red-brown. Prst unremarkable. Wing:  $6,9 \times 2,6$  mm; cell  $m_3$  and cup open at margin; membrane with slight brown-yellow tinge along veins; microtrichia evenly distributed over wing except for a few bare basal areas. Hlt: Brown-yellow knob, pale brown stalk. Legs: Red-brown; fem 3 length 3,7 mm, setae yellow; cx 1 setae dark red-brown.

**Abdomen:** Orange-brown, each tergum with dark brown lateral marks and proximomedial subtriangular mark; weakly silver pruinose (almost absent mediodorsally); dark red-brown setae. Genitalia (Figs 182–184): rotated 90° clockwise; epandl slightly divergent, tips bent slightly inward; hypd longer than wide, subtriangular, with mediodistal seta-bearing lobe; goncx with well-developed, long, dorsal process extending further than tip of goncx (Fig. 182).

**Paratypes:** 2 ♂ 1 ♀ similar to holotype. 2 other ♀ specimens are slightly larger in size and have no associated ♂ and have for this reason been excluded from the type series.

**Material examined:**

**Holotype:** ♂, SOUTH AFRICA: 'Cape Province / Matjiesfontein [33°13'S: 20°35'E] / 1–18.xii.1928', 'S. Africa / R. E. Turner / Brit. Mus. / 1929–15' (BMNH).

**Other:** SOUTH AFRICA: *Cape Province:* 1 ♀, Putsonderwater [29°14'S: 21°53'E], x.1939, Mus. Stall (SAMC); 1 ♀, Niekerkshoop [29°19'S:22°50'E], Griqualand West, x.1938, Mus. Staff (SAMC); 2 ♂ 1 ♀ **paratypes**, Tankwa Karoo [ca. 32°30'S:19°45'E], Waterval, xi.1952, Mus. Expd. (SAMC; 1 ♂ NMSA Type No. 463). SAMC – Type No. 5498.

**Distribution** (Tables 2–3): Little & Great Karoo, and southern parts of the Desert & Poor Steppe climatic region of South Africa.

**Habits:** Adults active during mid summer (Table 1) in areas of low winter rainfall.

**Relationships:** Together with *cuthbertsoni* makes up the *cuthbertsoni* species-group.

### **Scylaticus trophus sp. n.**

Figs 185–189

**Etymology:** Gr. *tropheros* = well-fed, fat, stout. Refers to the robust proportions of the species.

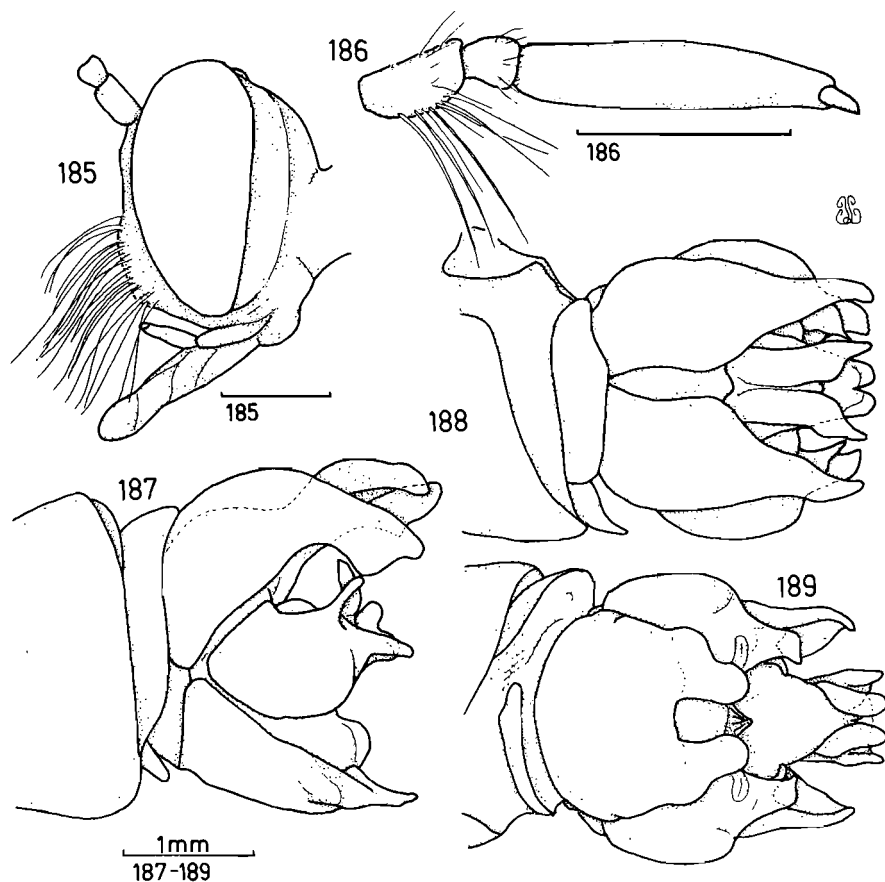
**Description:** Based on holotype ♂ unless otherwise stated.

**Head** (Fig. 185): Dark red-brown to black; weakly gold pruinose; setae yellow. Antenna (Fig. 186 - paratype ♀ described as holotype lacks flagellomeres) dark red-brown; setae yellow; proportional lengths of segments – 1 : 0,5 : 3,3 : 0,4; microsegment subconical with small terminal seta. Width of eye: width of face ratio 1,7 : 1. Mystax yellow (few brown setae laterally) occupying ca. 50% of facial depth on moderately well-developed gibbosity. Palpus dark red-brown. Proboscis dark red-brown; straight.

**Thorax:** Msn dark red-brown, ppnl lb and postalar callus similarly coloured; fine gold pruinose; covered with fine yellow setae. Macrosetae brown-yellow: ca. 7 npl plus setae; ca. 7 spal plus setae; ca. 10 (difficult to count) pal plus setae; acr undifferentiated; dc difficult to distinguish from setae. Sctl with ca. 16 yellow marginal macrosetae plus setae; disc with yellow setae adjacent to distal margin, central part asetose. Pleura dark red-brown to black; fine gold pruinose; ktg macrosetae long yellow. Prst unremarkable. Wing: 9,5 × 3,5 mm; cell m<sub>3</sub> and cup



open at margin; membrane transparent but with weak brown stained spots corresponding to first fork of Rs and first fork of M. Microtrichia cover most of wing except for a few small basal areas. Hlt: Orange knob, yellow-brown stalk. Legs: Femora and tarsi dark red-brown to black, tibiae brown-yellow proximally (fore and mid legs dark red-brown ventrally, hind legs entirely brown-yellow except distal tips); fem 3 length 5,4 mm, setae longish yellow; cx 1 setae yellow.



Figs 185–189. *Scylaticus trophus* sp. n. 185–186. Head. 185. Lateral (Klip Vlei ♂ holotype). 186. Right antenna (Klip Vlei ♂ paratype). 187–189. Male genitalia (Klip Vlei paratype ♂). 187. Lateral. 188. Dorsal. 189. Ventral.

**Abdomen:** Dark red-brown to black; posterior half on T2-6 bright gold-yellow pruinose (masking ground colour); setae longish shiny yellow. Genitalia (Figs 187–189, paratype illustrated): rotated 90° clockwise; epandril parallel-sided in dorsal view (Fig. 188) tips bent slightly inward, broad apically in lateral view (Fig. 187); hypd longer than wide, deeply incised medially (Fig. 189); goncx with well-developed dorsal process (Fig. 187), inner lobe with flange-like dorsal lobe.

Paratypes: 2 ♂ 4 ♀ – topotypic material in poor condition (one ♀ lacks a head while another has half the head eaten away by dermestid beetles). Agree

well with holotype. Outiep material with abdominal pruinescence not as bright as in other specimens.

Material examined:

Holotype: ♂, SOUTH AFRICA: 'Klip Vlei, Garies [30°33'S:17°59'E] / Namaqualand', 'Museum Staff / Nov. 1931' (SAMC).

Other: SOUTH AFRICA: *Cape Province*: 1 ♀ **paratype**, 10 km E Kamieskroon, 17-x – 1977, 3018AA, Ray M. Miller, 630m (NMSA); 2 ♂ 1 ♀ **paratypes**, same data as holotype (SAMC; 1 ♂ paratype NMSA Type No. 459); 2 ♀ **paratypes**, Outiep, Garies [30°33'S:17°59'E], Namaqualand, ix.1953, J. du Toit (SAMC). SAMC – Type Nos 5499 & 5500.

Distribution (Tables 2–3): Desert and Poor Steppe climatic region of South Africa.

Habits: Adults active in early summer (Table 1) in an area of winter rainfall.

Relationships: Is a member of the *laevinus* group comprising eight species, namely *callimus*, *gymnosternum*, *laevinus*, *gongrocercus*, *hadromedus*, *thecarus*, *trophus* and *zonatus*.

### **Scylaticus tyligmus** sp. n.

Figs 190–193, 211

Etymology: Gr. *tyligma* = swelling. Refers to the proximoventral parts of the antennae which have a somewhat swollen appearance.

Description: Based on holotype ♂ unless otherwise indicated.

**Head:** Dark red-brown to black; silver-gold pruinose; most setae white but vertex and frons with brown-yellow setae. Antenna (Fig. 190 – paratype ♂ as holotype lacks flagellomeres) dark red-brown; setae brown-yellow; proportional lengths of segments – 1 : 0,4 : 2,2 : 0,2; microsegment minute, subapical. Width of eye: width of face ratio 1,6 : 1. Mystax pale yellow-white occupying *ca.* 50% of facial depth on slight gibbosity. Palpus dark red-brown to black. Proboscis dark red-brown; straight.

**Thorax:** Msn dark red-brown to black, pprn lb and postalar callus similarly coloured; silver-gold pruinose; setae pale yellow. Macrosetae pale yellow white: 3 npl; 4 spal plus setae; *ca.* 8 pal plus setae; acr undifferentiated; dc and associated setae slender. Sctl with 12 yellow-white marginal macrosetae plus setae; disc asetose. Pleura dark red-brown; silver-gold pruinose; ktg macrosetae yellow-white. Prst unremarkable. Wing: 6,1 × 2,0 mm; cell  $m_3$  open, cup closed at margin (narrowly open in all paratypes); membrane transparent; microtrichia evenly distributed over wing. Hlt: Pale brown. Legs: Yellow-brown, femur with dark red-brown proximal tip, tibia with dark red-brown distal tip; fem 3 length 3,6 mm, setae pale yellow-white; cx 1 setae pale yellow-white.

**Abdomen:** Dark red-brown to black; silver-gold pruinose (weakly down mid-dorsal line); setae pale yellow. Genitalia (Figs 191–193): rotated through almost 180° clockwise; epandl parallel-sided in dorsal view (Fig. 192), tips slightly

swollen; hypd longer than wide, subtriangular, with welldeveloped lobe on either side of distal tip (Fig. 193); goncx with welldeveloped, broad-based, dorsal process (Fig. 192).

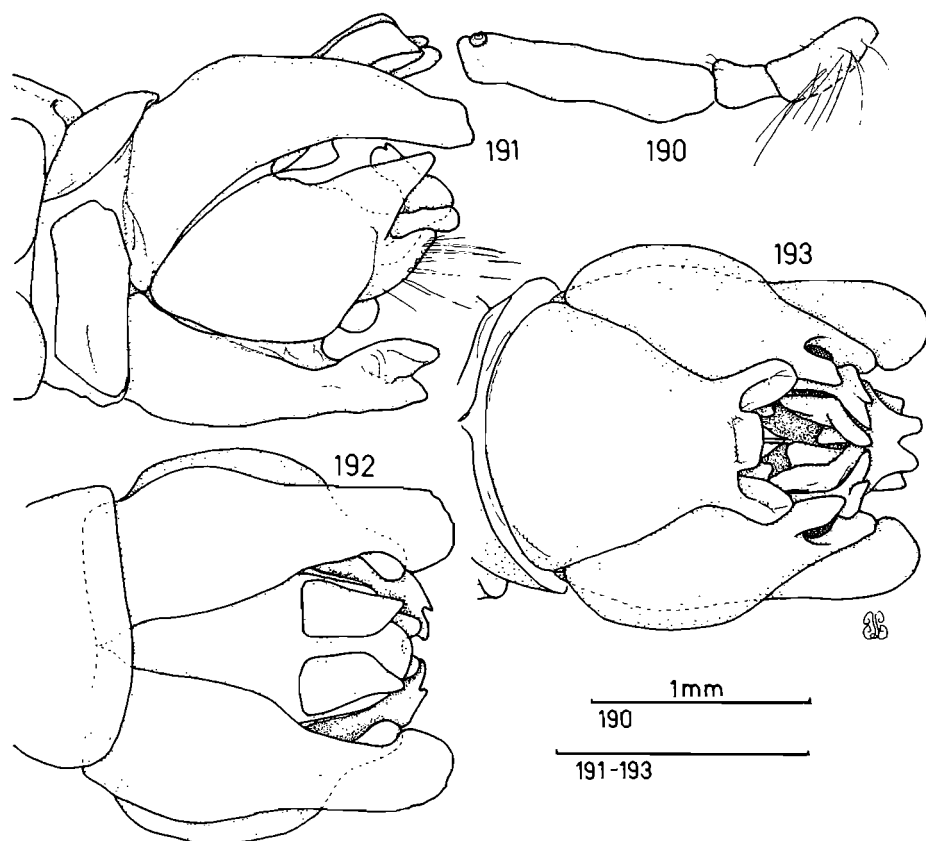
Paratypes: 5 ♂ 11 ♀ similar to holotype.

Material examined:

Holotype: ♂, SOUTH AFRICA: 'Thee Kloof [Teekloof – 32°10'S:21°37'E] / Fraserburg Div.', 'Mus. Staff / Nov. 1935' (SAMC – Type No 5501).

Other (SAMC Type No 5502 unless otherwise indicated): SOUTH AFRICA: *Cape Province*: 1 ♀ **paratype**, 17m S. of Loeriesfontein [30°58'S:19°27'E], ix.1961, S.A.M.; 4 ♂ 6 ♀, **paratypes**, 1 km N of Calvinia, 31°27'S:19°47'E, 1000m, 4–5.xi.1991, J. G. H. Londt, Kareedam Nat. Reserve (NMSA); 1 ♂ 4. ♀ 1 **paratypes**, same data as holotype (1 ♂ 1 ♀ paratypes NMSA). NMSA – Type No. 460.

Distribution (Fig. 211 Tables 2–3): Desert and Poor Steppe climatic region of South Africa.



Figs 190–193. *Scylaticus tyligmus* sp. n. 190. Left antenna. 191–193. Male genitalia. 191. Lateral. 192. Dorsal. 193. Ventral. (Thee Kloof paratype ♂).

**Habits:** Adults active during early summer (Table 1) in an area of low rainfall. Prey record: A female (1 km N Calvinia) was collected while feeding on a fly (Diptera: Tephritidae).

**Relationships:** A member of the *irwini* group of three species, namely *irwini*, *tyligmus* and *zirconius*.

***Scylaticus whiteheadi* sp. n.**

Figs 194–198

**Etymology:** Named for Dr Vincent Whitehead, who collected the type material.

**Description:** Based on holotype ♂ unless otherwise stated.

**Head** (Fig. 194 – paratype ♀): Dark red-brown to black; silver pruinose; setae white except for those on frons and antennae which are dark red-brown. Antenna (Fig. 195 – paratype ♀) dark red-brown to black; setae dark brown; proportional lengths of segments – 1 : 0,6 : 2,3 : 0,5; microsegment subcylindrical, with small terminal seta. Width of eye: width of face ratio 1,8 : 1. Mystax white occupying *ca.* 50% of facial depth on slight gibbosity. Palpus dark red-brown to black. Proboscis dark red-brown to black; relatively short, straight.

**Thorax:** Msn dark red-brown to black, pprn lb and postalar callus similarly coloured; gold-silver pruinose. Macrosetae white: 2–3 npl; 1 spal; *ca.* 4 pal plus setae; acr undifferentiated; dc weak, like adjacent setae. Sctl with *ca.* 14 white marginal macrosetae (not arranged in straight row) plus setae; disc with few setae extending from margin but central area asetose. Pleura dark red-brown; silver-gold pruinose; setae pale yellow; ktg macrosetae white. Prst unremarkable. Wing: 9,2 × 3,1 mm; cell *m*<sub>3</sub> and cup open at margin; membrane transparent; microtrichia evenly distributed over wing except for a few bare basal areas. Hlt: Yellow knob, brown stalk. Legs: Uniformly dark red-brown to black; fem 3 length 5,1 mm (rather long and thin), setae shortish white; cx 1 setae white.

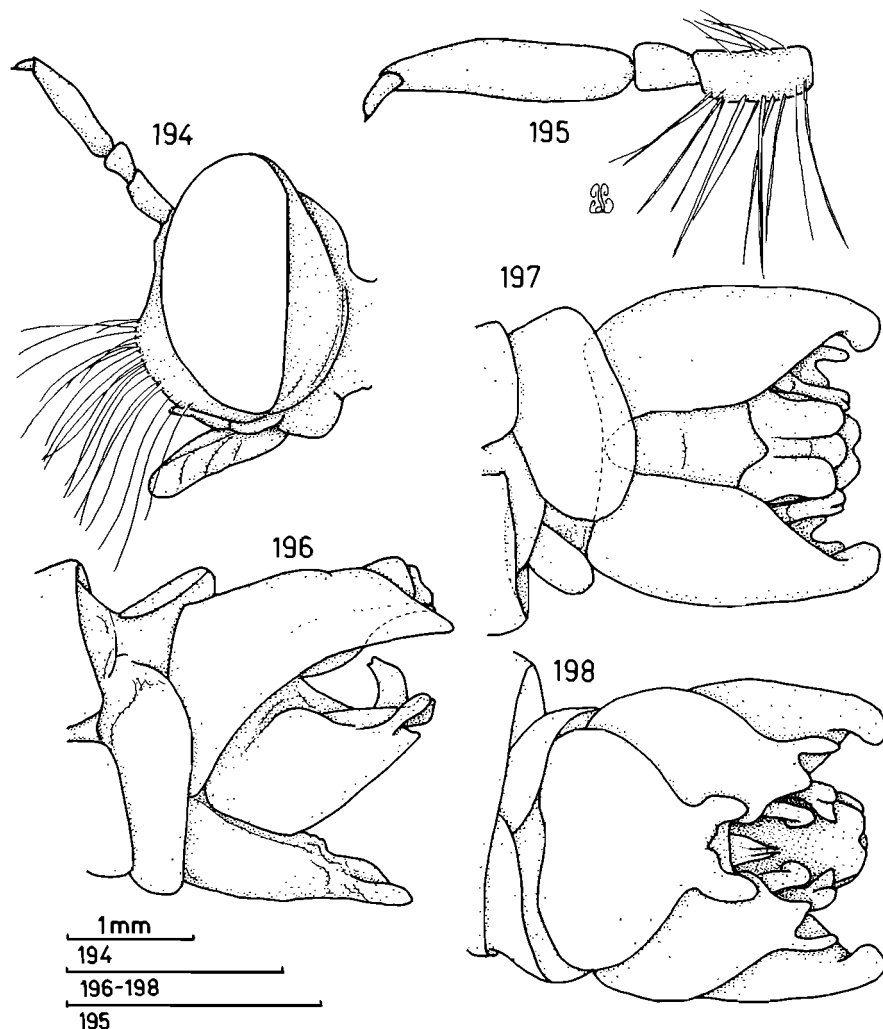
**Abdomen:** Elongate; dark red-brown to black; silver pruinose, especially posterolaterally; setae fine white. Genitalia (Figs 196–198 paratype): rotated more than 90° anticlockwise; epancl pointed, slightly divergent, tips bent slightly inward; hypd slightly wider than longer, bilobed distally (Fig. 198); goncx with well-developed, dorsal process extending slightly further than tip of goncx (Fig. 196).

**Paratypes:** 2 ♂ 3 ♀. ♂ agrees well with holotype. ♀ shows consistent sexual dimorphism in abdominal and leg coloration: T5(6) and subsequent terga increasingly orange dorsally; femora and much of tibiae brown-yellow.

**Material examined:**

**Holotype:** ♂, NAMIBIA: 'SWA / Ameib / 3 km N / Usakos [22°00'S:15°36'E] / 10.v.78 / V. B. Whitehead' SAMC – Type No 5503).

**Other:** NAMIBIA: 1 ♂ 2 ♀ **paratypes**, same data as holotype (SAMC – Type No 5504); 1 ♂ 1 ♀ **paratypes** [*in cop.*], same data but 10.iii.78 (NMSA – Type No 461).



Figs 194–198. *Scylaticus whiteheadi* sp. n. 194–195. Head (Ameib ♀ paratype). 194. Lateral. 195. Left antenna. 196–198. Male genitalia (Ameib ♂ paratype). 196. Lateral. 197. Dorsal. 198. Ventral.

**Distribution** (Tables 2–3): Desert & Poor Steppe climatic region of Namibia.

**Habits:** Adults apparently active during late summer (Table 1) in an area of low summer rainfall. A pair of paratypes are pinned together indicating that they were mating when caught. The female of this pair has a small adult Lygaeidae species stuck to its proboscis; I assume that this was prey being consumed by her during mating.

**Relationships:** Together with *chrysotus* comprises the *chrysotus* species-group.

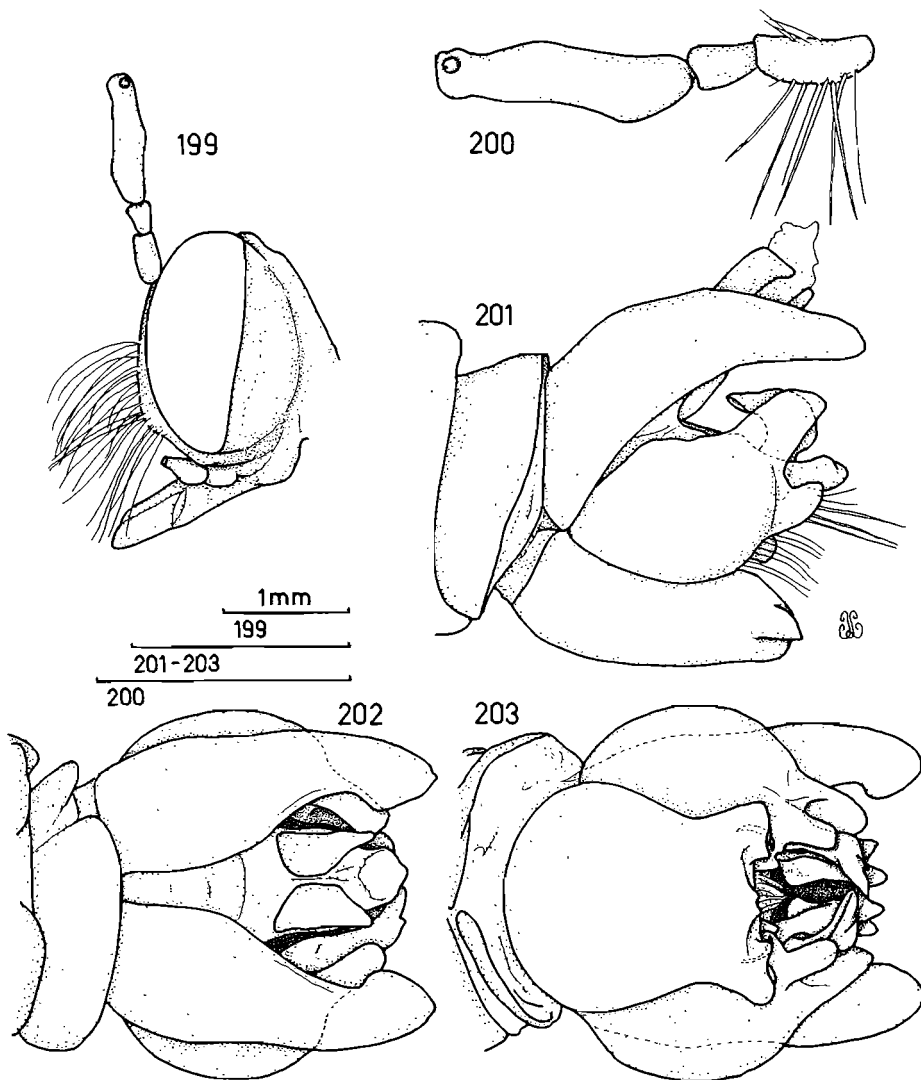
***Scylaticus zirconius* sp. n.**

Figs 199–203, 211

**Etymology:** Arabic *zarqun* = gold covered. Refers to the bright golden yellow setae and pruinescence of this species.

**Description:** Based on holotype ♂ unless otherwise stated.

**Head** (Fig. 199 – ♂ paratype): Dark red-brown to black; gold-silver pruinose; all setae bright yellow. **Antenna** (Fig. 200) dark brown, scape and pedicel paler brown; setae bright yellow; proportional lengths of segments – 1 : 0,6 : 2,2 : 0,1;



Figs 199–203. *Scylaticus zirconius* sp. n. 199–200. Head. 199. Lateral (Aggenys ♂ paratype). 200. Left antenna (Aggenys ♂ holotype). 201–203. Male genitalia (Aggenys ♂ paratype). 201. Lateral. 202. Dorsal. 203. Ventral.

flagellomere somewhat swollen proximoventrally; microsegment tiny, subapical, with small seta. Width of eye: width of face ratio 1,5 : 1. Mystax bright yellow occupying ca. 60% of facial depth on slight gibbosity. Palpus brown-yellow. Proboscis yellow-brown, slightly paler ventrally; straight.

*Thorax*: Msn dark red-brown, pprn lb and postalar callus similarly coloured; gold pruinose; setae bright yellow. Macrosetae yellow: ca. 4 npl plus setae; ca. 3 spal plus setae; ca. 8 pal plus setae; acr undifferentiated; dc not well developed, similar to adjacent setae. Sctl with 12 yellow marginal macrosetae plus few setae; disc asetose. Pleura red-brown; gold pruinose; ktg macrosetae long yellow. Prst unremarkable. Wing: 6,6 × 2,2 mm; cell m<sub>3</sub> and cup open at margin (cup very narrowly); membrane transparent; microtrichia evenly distributed over wing except for a few bare basal areas. Hlt: Brown-yellow. Legs: Uniformly brown-yellow, tarsi slightly darker; fem 3 length 4,1 mm, setae bright yellow; cx 1 setae bright yellow.

*Abdomen*: Dark red-brown, heavily masked by silver-gold pruinescence; setae bright yellow. Genitalia (Figs 201–203): rotated 90° clockwise; epandl slightly divergent, tips bent slightly inward; hypd longer than wide, with subapical lobes either side of somewhat poorly developed tip; goncx with well-developed broad, flange-like, dorsal process extending further than tip of goncx (Fig. 201).

Paratypes: 4 ♂ 5 ♀ similar to holotype.

Material examined:

Holotype: ♂, SOUTH AFRICA: 'Naib [29°21'S:18°20'E] or / Bushmanland / Btw Springbok / and Pella', 'Mus. Staff / Oct. 1939'. SAMC – Type Nos 5505.

Other (SAMC except where indicated): SOUTH AFRICA: *Cape Province*: 4 ♂ 5 ♀ **paratypes**, same data as holotype. SAMC – Type No 5506 (1 ♂ 1 ♀ paratypes NMSA – Type No. 462).

Distribution (Fig. 211 Tables 2–3): Desert & Poor Steppe climatic region of South Africa.

Habits: Adults apparently active in early summer (Table 1) in an area of low summer rainfall.

Relationships: A member of the *irwini* group of three species, namely *irwini*, *tyligmus* and *zirconius*.

### *Scylaticus zonatus* Loew, 1858

Figs 204–209

*Scylaticus zonatus* Loew, 1858: 349 [1860: 157]; Bezzi, 1906: 270; Kertész, 1909: 104; Curran, 1934: 6; Hull, 1962: 145; Oldroyd, 1980: 368.

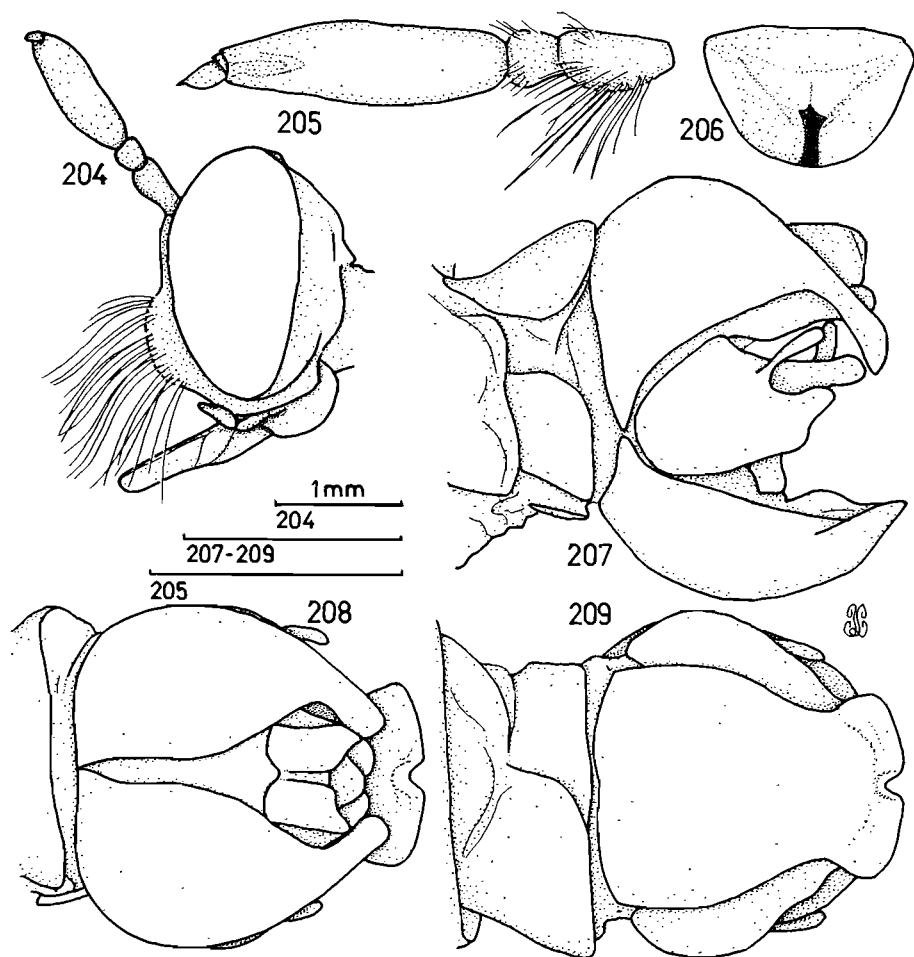
Etymology: L. *zona* = belt, girdle. Presumably refers to the banded appearance of the abdominal terga.

Lectotype designation: In describing *zonatus*, Loew (1858) merely indicated that he had seen both sexes. As his material (collected by Wahlberg in 'Caffraria') belonged to NHRS, and their records show only a single pair of specimens (1♂ 1♀), I

assume that Loew studied only these two specimens. As he failed to designate a holotype I here designate the ♂ specimen as **lectotype** and the ♀ as **paralectotype**.

Redescription: Based on lectotype ♂, in excellent condition, unless otherwise stated.

**Head** (Figs 204–205): Dark red-brown; silver pruinose. Antenna dark red-brown; setae pale yellow; proportional lengths of segments – 1 : 0,5 : 2,5 : 0,5 [paralectotype ♀ measured as lectotype lacks flagellomeres]; microsegment subconical with small terminal seta. Width of eye: width of face ratio 1,6 : 1. Mystax pale yellow occupying *ca.* 50% of facial depth on moderate gibbosity (Fig. 204). Palpus dark red-brown. Proboscis dark red-brown; straight.



Figs 204–209. *Scylaticus zonatus* Loew, 1858. 204–205. Head (Caffraria ♀ paralectotype). 204. Lateral. 205. Left antenna. 206. Prosternum (♀ paralectotype). 207–209. Male genitalia (Caffraria ♂ lectotype). 207. Lateral. 208. Dorsal. 209. Ventral.



*Thorax*: Msn dark red-brown to black including pprn lb and posterior region; silver-gold pruinose, especially laterally and mid-dorsally, darkish medio-longitudinal parts evident. Macrosetae pale yellow: 3–4 npl plus setae; 4 spal plus setae; ca. 6 pal plus setae; acr undifferentiated; ca. 7 pairs dc, mostly postsuturally. Sctl with 9 weakish pale yellow marginal macrosetae plus smaller setae; disc with few pale yellow setae on lateral parts. Pleura dark red-brown; fine silver-gold pruinose; ktg macrosetae pale yellow. Prst (Fig. 206) unremarkable. Wing: 7,5 × 2,8 mm; cell m<sub>3</sub> widely open and cup narrowly open; membrane transparent with pale yellowish tinge; microtrichia evenly distributed over wing. Hlt: Brown stalk, yellow knob. Legs: Dark red-brown except for contrasting brown-yellow anteroventral parts of femora and proximal parts of tibiae; fem 3 length 4,1 mm, setae pale yellow-white; cx 1 setae pale yellow.

*Abdomen*: Dark red-brown to black; broad silver-gold pruinose distal tergal margins; setation longish pale yellow. Genitalia (Figs 207–209): rotated 90° anticlockwise; epandl rounded laterally, tips relatively slender and bent inward; hypd much longer than wide, spatulate, constricted at midlength and with V-shaped distomedial marginal notch; goncx with well-developed, finger-like dorsal process (Fig. 207).

Paralectotype ♀: Similar to holotype but femora brown-yellow except for narrow red-brown base; proximal one-third of first tarsomere brown-yellow.

Variation: More recently collected material is generally darker than the types which may have faded slightly. Males have entirely dark red-brown femora, while these are extensively brown-yellow in females.

Material examined:

Lectotype: ♂, SOUTH AFRICA: No locality labels [Loew indicated 'Caffraria, Wahlberg'], '100', '248', 'Scylaticus zonatus' (NHRS).

Other (NMSA unless otherwise indicated): SOUTH AFRICA: 1 ♀ **paralectotype**, as lectotype with no locality labels [Loew indicated 'Caffraria, Wahlberg'], '101', '249' (NHRS). *Natal*: 1 ♀, 15,5 km N. Vryheid, 2730BD, 29.xi.1976, R. Miller, old quarry; 1 ♀, Mfongosi [28°43'S:30°48'E], Zululand, xii.1914, W. E. Jones (SAMC); 1 ♀, Pietermaritzburg [29°37'S:30°23'E], 9.xii.1962, A. C. van Bruggen; 1 ♀, Pietermaritzburg, Scottsville, (2930Cb), 6.xii.1971, M. E. Irwin; 1 ♂, Harold Johnson Nat. Reserve, SE2931AB, 27.i.1987, J. G. H. Londt, Indigenous bushveld; 2 ♂, Josephine Bridge, 3030AA, 20.xii.1984, J. G. H. Londt; 1 ?, Winklespruit [30°06'S:30°51'E], 3.i.1919, C. N. Barker, Ac. No. 2328 (SAMC).

Unsubstantiated literature record:

Curran (1934): South Africa: *Cape Province*: 1 ♂, Calvinia, November 13, Cockerell. Almost certainly a misidentification.

Restriction of type locality: Although the type specimens lack locality labels, Loew (1858 1860) indicated that they were collected by Wahlberg in Caffraria. I here restrict the type locality to Pietermaritzburg, as this is the only locality (in the list above) for which there is evidence that Wahlberg visited.

Distribution (Tables 2–3): Drakensberg and Subtropical climatic regions of South Africa.

Habits: Adults active during mid summer (Table 1) in a summer rainfall area. Specimens have been collected on sandy ground in indigenous 'bushveld' situations.

Relationships: A member of the *laevinus* group comprising eight species, (namely *callimus*, *gymnosternum*, *laevinus*, *gongrocercus*, *hadromedus*, *thecarus*, *trophus* and *zonatus*).

#### DISCUSSION

##### Affinities between Afrotropical species of *Scylaticus*:

Although a detailed phylogenetic study of relationships between the Afrotropical species would be premature, species-groups or segregates can be defined on the basis of morphological similarity, the form of the male genitalia being particularly important. The following subjective and tentative suggestions are made regarding some of the species-groups which may exist.

The *costalis* group: The following four species may be associated based on similarities in wing (stained anterior margin; position of r-m crossvein) and genital character states – *costalis*; *braunsi*; *bunohippus*; *loewi*. Two other species, *camptus* and *albofasciatus*, have a similar proboscis shape (downcurved), and may be more distantly related to the four species already listed.

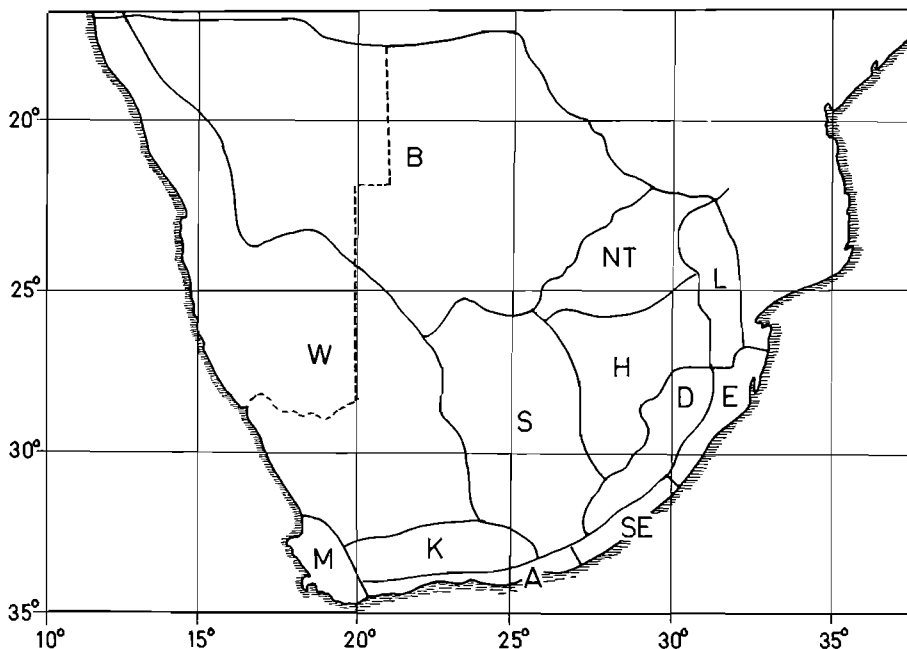


Fig. 210. Southern Africa showing the main climatological regions (adapted from Schultz 1965). M – Mediterranean, A – S Cape Coastal, K – Little & Great Karoo, W – Desert & Poor Steppe, S – S & N Steppe, SE – SE Cape Coastal, E – Subtropical, D – Drakensberg, L – Transvaal Lowveld, H – Highveld, NT – Northern Transvaal, B – Botswana & N Namibia.

The *irwini* group: The following three species, *irwini*, *tyligmus* and *zirconius*, form a distinct group based on antennal (shape of flagellomere and development of microsegment) and genital character states (eg. development of hypandrium and gonocoxite). As antennal characters appear to be important in the definition of stenopogonine genera, it may eventually be shown that this group deserves generic status. The basic form of the genitalia, however, along with other more minor features, suggests that these species are best retained in *Scylaticus*, unless detailed cladistic studies indicate otherwise.

The *laevinus* group: This group comprises eight species, namely *callimus*, *gymnosternum*, *laevinus*, *gongrocercus*, *hadromedus*, *thecarus*, *trophus* and *zonatus*, associated by virtue of similar genital form (particularly the development of the hypandrium). Although it is tempting to subdivide the group based on the development of the gonocoxite or cerci, this does not appear to be useful at the present time.

The *chrysotus* group: Comprises two species, namely *chrysotus* and *whiteheadi*, which share a number of genital similarities. Although superficially different, *quadrifasciatus* may be most closely related to these species as evidenced by its male genital form.

The *phaeus* group: Comprises *phaeus* and *ricardoeae*. These species have much in common, especially with regard to male genital form.

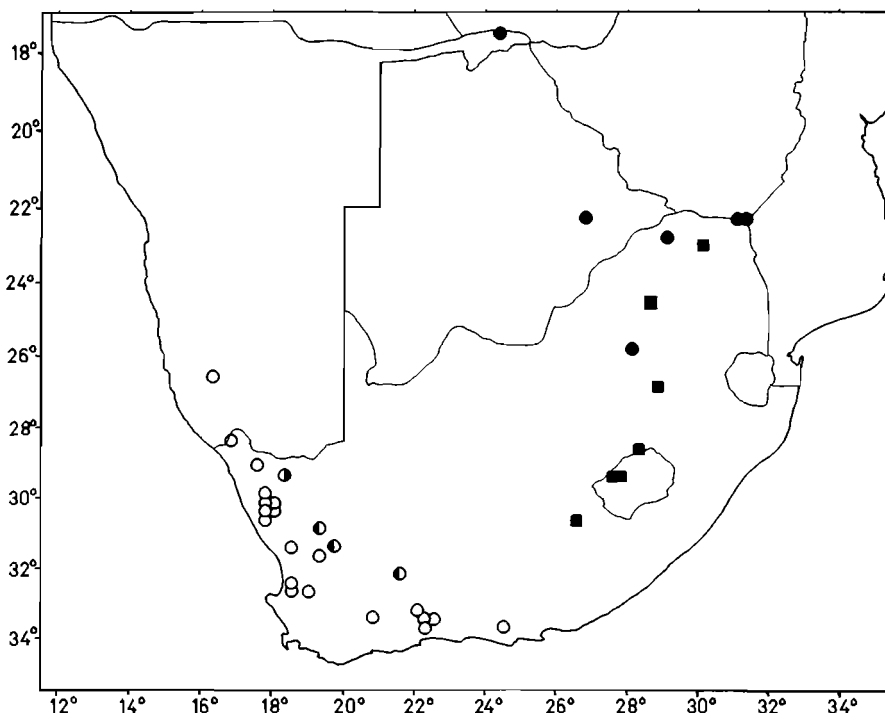


Fig. 211. Distribution of *Scylaticus* species. ■ = *S. bromleyi* sp. n.; ● = *S. camptus* sp. n.; ○ = *S. irwini* sp. n.; ◐ = *S. tyligmus* sp. n.; ◑ = *S. zirconius* sp. n.

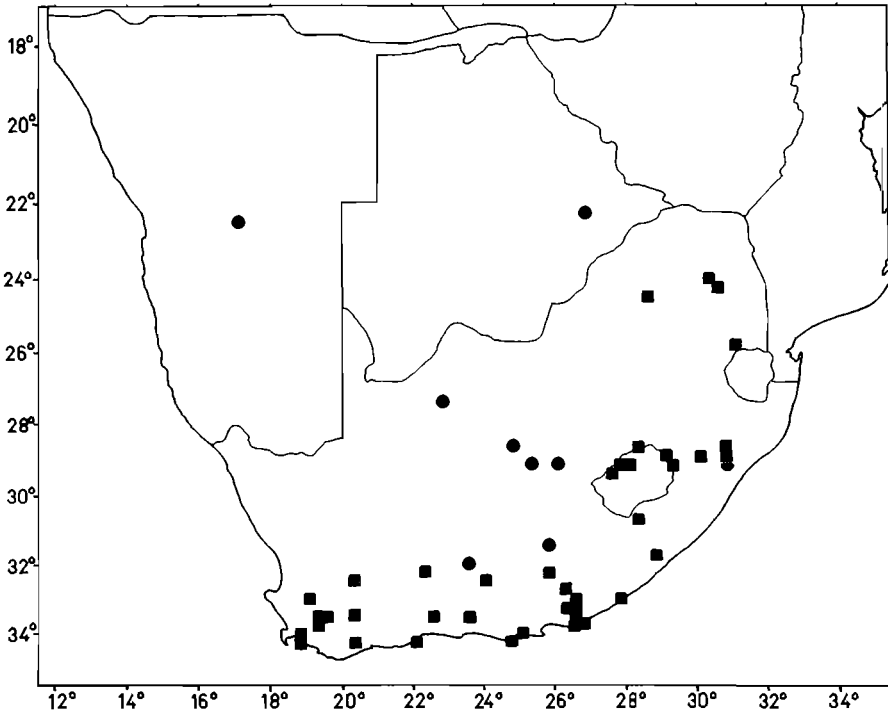


Fig. 212. Distribution of *Scylaticus* species. ■ = *S. costalis* (Wiedemann, 1819); ● = *S. chrysotus* sp. n.

The *cuthbertsoni* group: Comprises two species, namely *cuthbertsoni* and *tigrinus* which, although not obviously related, share similarities in male genital form.

The *danus* group: The two species *danus* and *entrichus* have much in common apart from similar male genital form (see species key). Although somewhat different, it is possible that *marginatus* may also belong to this group as the male genitalia appear similar.

The *midas* group: The species-pair, *midas* and *pardalotus* have much in common and may be considered to constitute a species-group.

The remaining species, namely *bromleyi*, *ceratitus*, *engeli*, *melanus*, *namibiensis* and *iota*, do not appear to have close affinities with any of the groups identified above and are left unplaced. Of these, *iota* is clearly the most atypical member of the genus. Although sharing a similar genital form with *Scylaticus* species, based on other characters it may eventually be shown to be sufficiently different to require placement in another as yet undescribed genus.

#### Seasonal incidence of Afrotropical *Scylaticus*:

Adults of all Afrotropical *Scylaticus* species are considered summer active (Table 1). Generally speaking species living in winter-rainfall areas or in high-lying areas adjacent to the southern African Mediterranean climatic region

TABLE 1

Summary of seasonal distribution of Afrotropical *Scylaticus* species  
(abbreviations = months of the year).

Species	J	A	S	O	N	D	J	F	M	A	M	J
<i>albofasciatus</i>	-	-	-	-	•	•	•	•	-	-	-	-
<i>braunsi</i>	-	-	-	•	•	-	-	-	-	-	-	-
<i>bromleyi</i>	-	-	-	-	-	•	•	•	-	-	-	-
<i>bunohippus</i>	-	-	-	-	•	•	-	-	-	-	-	-
<i>callimus</i>	-	-	-	-	-	•	-	-	-	-	-	-
<i>camptus</i>	-	-	-	•	-	•	•	•	-	-	-	-
<i>ceratitus</i>	-	-	•	•	-	-	-	-	-	-	-	-
<i>chrysotus</i>	-	-	-	-	-	•	-	-	•	•	•	-
<i>costalis</i>	-	-	-	-	•	•	•	•	•	•	•	•
<i>cuthbertsoni</i>	-	-	-	-	-	-	-	•	-	-	-	-
<i>danus</i>	-	-	-	•	•	-	-	-	-	-	-	-
<i>engeli</i>	-	-	-	-	-	-	•	•	•	-	-	-
<i>entrichus</i>	-	-	-	-	•	-	-	-	-	-	-	-
<i>gongrocercus</i>	-	-	-	•	-	•	-	-	-	-	-	-
<i>gymnosternum</i>	-	-	-	-	-	•	-	-	-	-	-	-
<i>hadromedus</i>	-	-	•	-	-	-	-	-	-	-	-	-
<i>iota</i>	-	-	-	-	•	-	-	-	-	-	-	-
<i>irwini</i>	-	-	•	•	•	•	-	-	-	-	-	-
<i>laevinus</i>	-	-	-	-	-	•	•	•	-	-	-	-
<i>loewi</i>	-	-	-	-	•	-	-	-	-	-	-	-
<i>marginatus</i>	-	-	-	-	•	•	-	-	-	-	-	-
<i>melanus</i>	-	-	•	•	-	-	-	•	-	-	-	-
<i>midas</i>	-	-	-	-	-	-	-	-	•	-	-	-
<i>namibiensis</i>	-	-	-	-	-	-	-	•	•	•	-	-
<i>pardalotus</i>	-	-	-	-	•	•	-	•	-	-	-	-
<i>phaeus</i>	-	-	-	-	•	•	-	-	-	-	-	-
<i>quadrifasciatus</i>	-	-	-	•	•	•	-	-	-	-	-	-
<i>ricardoae</i>	-	-	-	•	•	•	•	-	-	-	-	-
<i>thecarus</i>	-	-	-	-	-	•	-	-	-	-	-	-
<i>tigrinus</i>	-	-	-	•	•	•	-	-	-	-	-	-
<i>trophus</i>	-	-	•	•	•	-	-	-	-	-	-	-
<i>tyligmus</i>	-	-	•	-	•	-	-	-	-	-	-	-
<i>whiteheadi</i>	-	-	•	-	•	-	-	-	•	-	•	-
<i>zirconius</i>	-	-	•	-	-	-	-	-	-	-	-	-
<i>zonatus</i>	-	-	-	-	•	•	•	-	-	-	-	-
Totals:	0	0	8	11	19	19	8	10	6	3	3	1

(which tend to experience longer periods of cold during winter, and very dry summers), fly during early summer. Species adapted to summer rainfall areas are active for longer periods and may be most common during the latter half of summer.

#### Habitat requirements of Afrotropical *Scylaticus*:

Many species live in summer rainfall areas and prefer exposed, sandy, well-drained places experiencing relatively low rainfall. Species may be found in a wide variety of vegetational situations, including subtropical coastal dune vegetation, Cape macchia, dry scrubland, thornveld, grassland and semidesert. Virtually every specimen collected by me was found resting on, or flying low over, the ground. A few females have been observed scraping at the soil surface

with their acanthophorites and this leads me to believe that eggs are deposited underground.

Very little is known about the feeding habits of adult *Scylaticus* species. Only eight prey records are known to me and these can be summarised as – 6 heteropterous bugs (3 adults, 3 nymphs) belonging to two families (Lygaeidae & Pentatomidae), 1 fly (adult Tephritidae) and one spider (Araneidae). It therefore appears that there may be a preference for Hemiptera. Of interest is that *ca.* 50% of the prey items were incapable of flight, which may indicate that *Scylaticus* prefer to take prey that is walking rather than flying. As this is contrary to what is known for virtually every other genus of Asilidae, the suggestion requires verification.

Of interest is that most *Scylaticus* species mimic wasps in both general appearance and flight. For example, members of what may loosely be called the '*costalis* group' look very vespid-like and may even hold their wings out at an angle while at rest.

#### Distribution of Afrotropical *Scylaticus*:

Recorded material indicates that *Scylaticus* has its distributional centre in southern African (Fig. 214 Tables 2–3). Records north of 17°S (Fig. 213) are

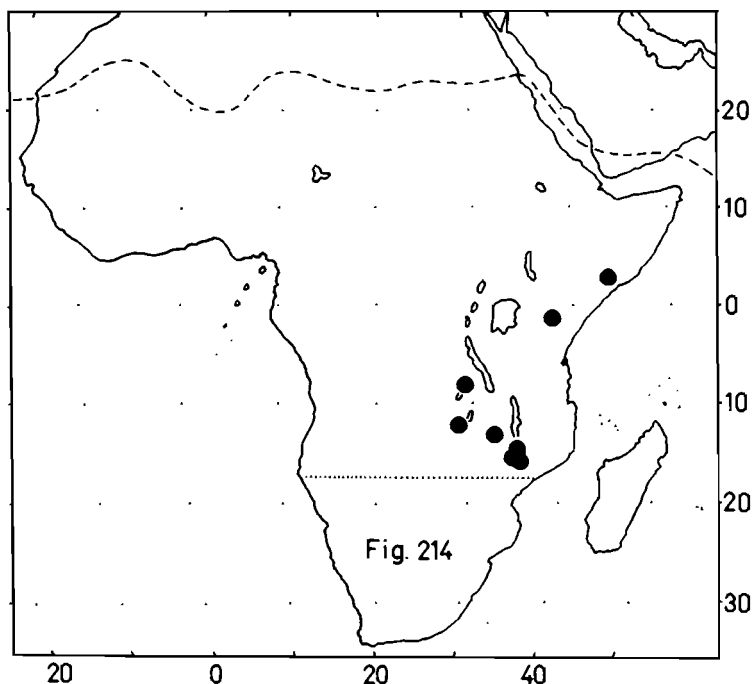


Fig. 213. Distribution of Afrotropical *Scylaticus* species (details for southern Africa given in Fig. 214).

limited to a few specimens of two known species (*albofasciatus* and *quadrifasciatus*) collected in Malawi and Zambia. In addition to these I have seen two female specimens of an apparently undescribed species, collected at Baidoa in Somalia during November 1983 and donated to the Natal Museum by Prof. Robert Lavigne (this locality has been plotted in Figs 213, 215). Distribution in southern Africa (Fig. 214) appears concentrated over the western Cape, the southern Cape and through the eastern Cape into Natal and Lesotho. The distribution pattern is probably incomplete and may merely reflect the areas where most collecting has

TABLE 2

Summary of distribution of Afrotropical *Scylaticus* species (political regions).

Species	Southern Africa											Central & East Africa
	C	RSA			Tk	L	S	Nb	B	Z	M	
<i>albofasciatus</i>	—	—	—	—	—	—	—	—	—	●	—	●
<i>braunsi</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>bromleyi</i>	●	●	●	—	—	●	—	—	—	—	—	—
<i>bunohippus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>callimus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>camptus</i>	—	—	●	—	—	—	—	●	●	—	—	—
<i>ceratitus</i>	—	—	—	—	—	—	—	—	●	—	—	—
<i>chrysotus</i>	●	●	—	●	—	—	—	●	●	—	—	—
<i>costalis</i>	●	●	●	●	●	●	—	—	—	—	—	—
<i>cuthbertsoni</i>	—	—	—	—	—	—	—	—	—	●	—	—
<i>danus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>engeli</i>	—	—	—	●	●	—	—	—	—	—	—	—
<i>entrachus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>gongrocercus</i>	●	—	—	—	—	—	—	●	—	—	—	—
<i>gymnosternum</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>hadromedus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>iota</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>irwini</i>	●	—	—	—	—	—	—	●	—	—	—	—
<i>laevinus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>loewi</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>marginatus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>melanus</i>	●	—	—	—	—	—	—	●	—	—	—	—
<i>midas</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>namibiensis</i>	●	—	—	—	—	—	—	●	—	—	—	—
<i>pardalotus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>phaeus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>quadrifasciatus</i>	—	—	—	—	—	—	—	—	—	●	—	●
<i>ricardoae</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>thecarus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>tigrinus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>trophus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>tyligmus</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>whiteheadi</i>	—	—	—	—	—	—	—	●	—	—	—	—
<i>zirconius</i>	●	—	—	—	—	—	—	—	—	—	—	—
<i>zonatus</i>	—	—	—	●	—	—	—	—	—	—	—	—
Totals:	27	3	3	4	2	2	0	7	3	3	0	2

Abbreviations:

RSA – Republic of South Africa (C – Cape Province, O – Orange Free State, T – Transvaal, N – Natal); Tk – Transkei; L – Lesotho; S – Swaziland; Nb – Namibia; B – Botswana; Z – Zimbabwe; M – Mozambique south of the Zambezi.

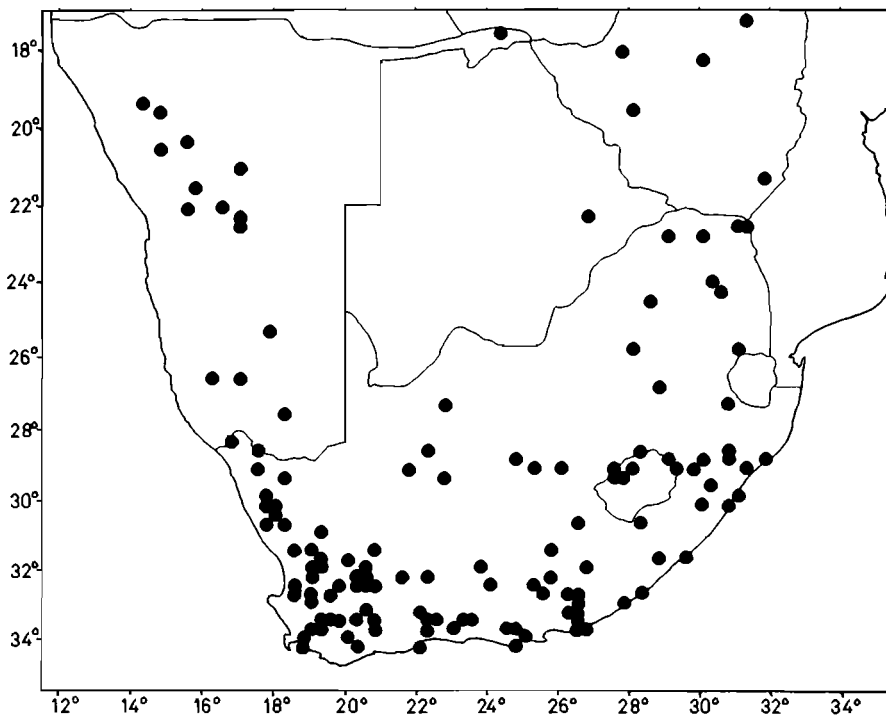


Fig. 214. Distribution of *Scylaticus* in southern Africa.

been done. I suggest that there are few places in southern Africa where species of *Scylaticus* are unlikely to occur. A great deal of additional collecting is necessary before a more adequate analysis of distribution will be possible.

#### World distribution of *Scylaticus*:

The world distribution of *Scylaticus* (determined on the basis of the limited material I have seen, and published records known to me) is shown in Fig. 215. Although I have seen only four species from regions other than the Afrotropical, I am convinced that these, and probably most of the other known species, are indeed congeneric. The only species which I believe may be incorrectly placed in *Scylaticus* is *S. carrascoi*, described from Peru and northern Chile. Various features described and illustrated by Artigas (1974), particularly the male genitalia and mystax, are atypical (as noted by Artigas himself). However, the only Neotropical species seen by me, *S. chilensis*, bears a strong resemblance to *S. costalis* (and its close relatives) centred in the south-western Cape of South Africa, while the Palearctic *S. palestinesis* is clearly morphologically similar to *S. laevinus* from the eastern Cape. The Mediterranean/Subsaharan African 'disjunction' seen in Figs 215–216 may not exist. As collecting has been very limited in the intervening area, I believe that there is a strong possibility that material will eventually be found there. The affinities of the two Oriental species studied by me, *S. degener* and *S. sayano*, which are clearly



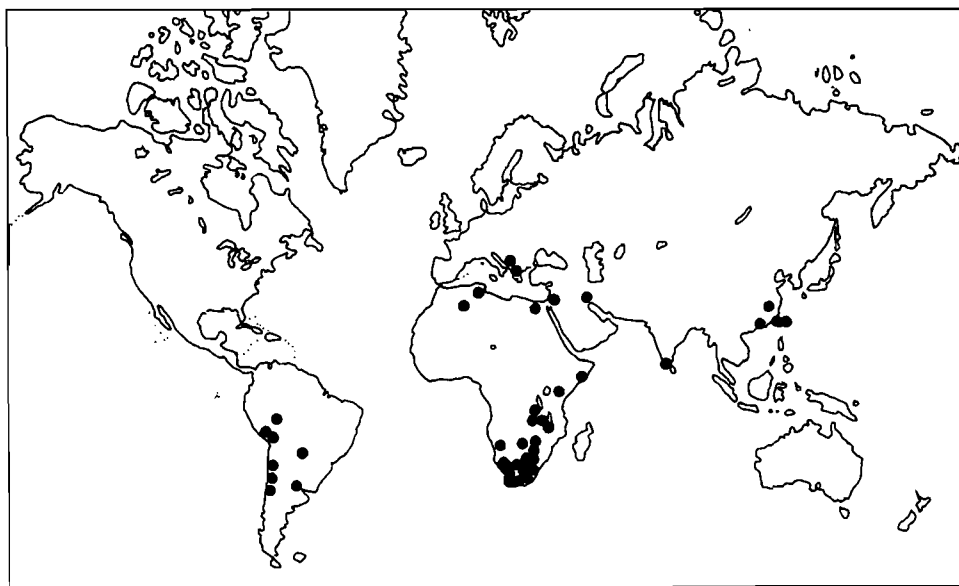


Fig. 215. The world distribution of *Scylaticus* species.

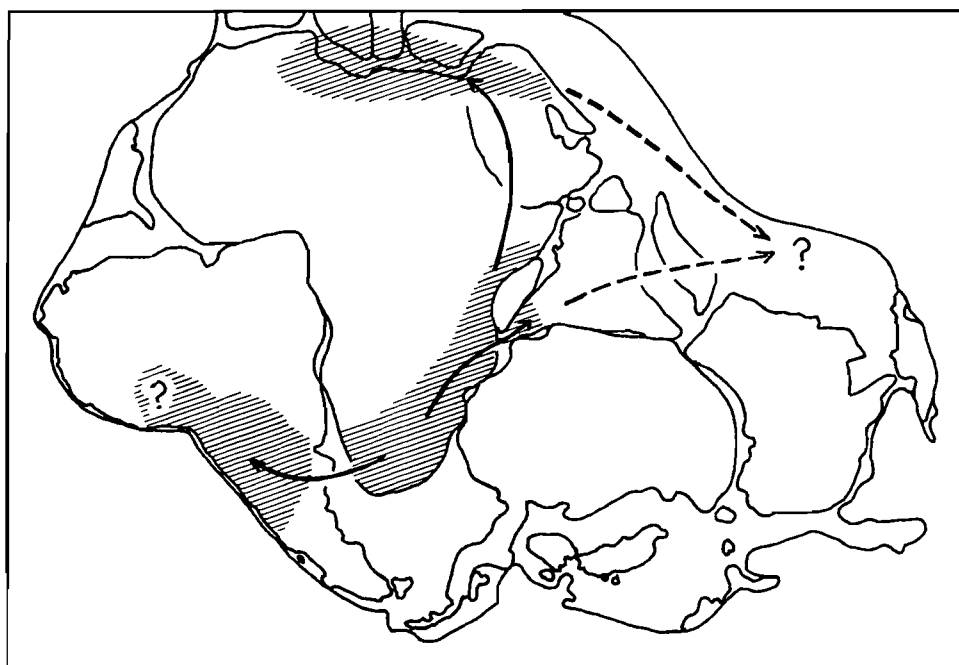


Fig. 216. Gondwana and a possible explanation for the present distribution of *Scylaticus*.

similar morphologically, are difficult to determine although their genitalia suggest an affinity with *S. palestinensis*. With this limited information, it is tempting to suggest that the present distribution of *Scylaticus* may result from the dismemberment of Gondwana (Fig. 216). The question marks in Fig. 216 refer, firstly, to the alternative distribution routes which may have been taken in order to explain the occurrence of the genus in the Far East and, secondly, the doubtful occurrence of *Scylaticus* in Peru and northern Chile. It is clear that a detailed phylogenetic study of all species is desirable, but, as many probably still await discovery, this work may not be possible for some years to come.

TABLE 3

Summary of distribution of Afrotropical *Scylaticus* species (climatic regions of southern Africa).

Species	M	A	K	W	S	SE	E	D	L	H	NT	B	Z
<i>albofasciatus</i>	-	-	-	-	-	-	-	-	-	-	-	-	•
<i>braunsi</i>	-	-	•	-	-	-	-	-	-	-	-	-	-
<i>bromleyi</i>	-	-	-	-	•	-	-	-	-	•	•	-	-
<i>bunohippus</i>	-	-	-	•	•	-	-	-	-	-	-	-	-
<i>callimus</i>	-	•	-	-	-	-	-	-	-	-	-	-	-
<i>camptus</i>	-	-	-	-	-	-	-	-	•	-	•	•	-
<i>ceratitus</i>	-	-	-	-	-	-	-	-	-	-	-	•	-
<i>chrysotus</i>	-	-	-	•	•	-	-	•	-	-	-	•	-
<i>costalis</i>	•	•	•	•	-	-	-	•	•	-	•	-	-
<i>cuthbertsoni</i>	-	-	-	-	-	-	-	-	-	-	-	-	•
<i>danus</i>	-	-	•	•	-	-	-	-	-	-	-	-	-
<i>engeli</i>	-	-	-	-	-	•	•	-	-	-	-	-	-
<i>entrichus</i>	-	-	-	•	-	-	-	-	-	-	-	-	-
<i>gongrocercus</i>	•	-	-	•	-	-	-	-	-	-	-	-	-
<i>gymnosternum</i>	-	-	•	-	-	-	-	-	-	-	-	-	-
<i>hadromedus</i>	-	-	-	•	-	-	-	-	-	-	-	-	-
<i>iota</i>	-	-	•	•	-	-	-	-	-	-	-	-	-
<i>irwini</i>	•	-	•	•	-	-	-	-	-	-	-	-	-
<i>laevinus</i>	-	•	-	-	•	•	-	-	-	-	-	-	-
<i>loewi</i>	-	-	-	•	-	-	-	-	-	-	-	-	-
<i>marginatus</i>	•	-	-	-	-	-	-	-	-	-	-	-	-
<i>melanus</i>	-	-	-	•	-	-	-	-	-	-	-	-	-
<i>midas</i>	-	-	-	•	-	-	-	-	-	-	-	-	-
<i>namibiensis</i>	-	-	-	•	•	-	-	-	-	-	-	•	-
<i>pardalotus</i>	-	-	•	•	•	-	-	-	-	-	-	-	-
<i>phaeus</i>	-	-	•	-	-	-	-	-	-	-	-	-	-
<i>quadrifasciatus</i>	-	-	-	-	-	-	-	-	-	-	-	-	•
<i>ricardoae</i>	•	•	•	-	•	-	-	-	-	-	-	-	-
<i>thecarus</i>	-	-	•	-	-	-	-	-	-	-	-	-	-
<i>tigrinus</i>	-	-	•	•	-	-	-	-	-	-	-	-	-
<i>trophus</i>	-	-	-	•	-	-	-	-	-	-	-	-	-
<i>tyligmus</i>	-	-	-	•	-	-	-	-	-	-	-	-	-
<i>whiteheadi</i>	-	-	-	•	-	-	-	-	-	-	-	-	-
<i>zirconius</i>	-	-	-	•	-	-	-	-	-	-	-	-	-
<i>zonatus</i>	-	-	-	-	-	-	•	•	-	-	-	-	-
Totals:	5	4	11	19	7	2	2	3	2	1	3	4	3

## Abbreviations:

M – Mediterranean  
W – Desert & Poor Steppe  
E – Subtropical  
H – Highveld  
Z – Zimbabwe and further north

A – S Cape Coastal  
S – S & N Steppe  
D – Drakensberg  
NT – Northern Transvaal

K – Little & Great Karoo  
SE – SE Cape Coastal  
L – Transvaal Lowveld  
B – Botswana & N Namibia

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## REFERENCES

- ABBASSIAN-LINTZEN, R. 1964. Asilidae (Diptera) of Iran. 1. Robberflies belonging to the subfamilies Laphriinae and Dasypogoninae (with description of new species). *Annals and Magazine of Natural History* (13)7: 417–435.
- ARTIGAS, J. N. 1970. Los Asilidos de Chile (Diptera – Asilidae). *Gayana Zoologia* 17: 1–473.
- 1971. Las estructuras quitinizadas de la spermatheca y funda del pene de los asilidos y su valor sistematico a traves del estudio por taxonomia numerica (Diptera – Asilidae). *Gayana Zoologia* 18: 1–106.
- 1974. *Scylaticus carrascoi* n. sp. del altiplano Chileno Peruano (Diptera – Asilidae). *Boletín de la Sociedad de Biología de Concepción XLVIII*: 5–9.
- BECKER, T. 1922. Wissenschaftliche Ergebnisse der mit Unterstützung der Akademie der Wissenschaften in Wien aus der Erbschaft Treitl von F. Werner unternommenen zoologischen Expedition nach dem anglo-ägyptischen Sudan (Kordofan) 1914. VI. Diptera. *Denkschriften der Kaiserlichen Akademie der Wissenschaften. Wien* 98(1923): 57–82.
- BEZZI, M. 1906. Ditteri Eritrei raccolti dal Dott. Andreini e dal Prof. Tellini. Parte prima. Diptera orthorrhapha. *Bolletino della Società Entomologica Italiana* 37(1905): 195–304.
- BIGOT, J. M. F. 1879. Diptères nouveaux ou peu connus. 10<sup>e</sup> partie (pars secunda). XV (suite). Tribu des Asilidi. Curies des Laphridae et Dasypogonidae. *Annales de la Société Entomologique de France* (5)8 (1878): 401–446.
- BROMLEY, S. W. 1947. New South African Asilidae (Diptera). *Annals of the Durban Museum* 3(8): 109–117.
- 1952. Notes on South African Asilidae (Diptera). *Durban Museum Novitates* 4(1): 19–21.
- CURRAN, C. H. 1934. Notes and descriptions of African Diptera. *American Museum Novitates* 710: 1–16.
- EFFLATOUN, H. C. 1937. A monograph of Egyptian Diptera. Part V. Family Asilidae (Section II). *Mémoires de la Société Royal Entomologique D’Egypte* 4(3): 199–443, 5 colour plates.
- ENGEL, E. O. 1930. Asilidae [part]. Lindner, E. ed. *Die Fliegen des palaearktischen Region*. Stuttgart: Schweizerbatsche Verlagsbuchhandlung 24: 321–384.
- 1932. New or little known Asilidae from South Africa. II. *Annals of the Transvaal Museum* 14(4): 251–283.
- ENGEL, E. O. & CUTHBERTSON, A. 1934. Systematic and biological notes on some Asilidae (Diptera) of Southern Rhodesia with a description of a species new to science. *Proceedings of the Rhodesia Scientific Association* 34(1): 35–47.
- 1939. Systematic and biological notes on some brachycerous Diptera of Southern Rhodesia. *Journal of the Entomological Society of Southern Africa* 2: 181–195.
- HERMANN, F. 1907. Beitrag zur Kenntnis der Asiliden (III). (Dipt.) *Zeitschrift für Systematische Hymenopterologie und Dipterologie* 7: 1–16, 65–78.
- HULL, F. M. 1962. Robber flies of the World. The genera of the family Asilidae. *Bulletin of the United States National Museum* 224(1–2): 1–907.
- 1967. Diptera (Brachycera): Asilidae. In: Hanstrom, B. et. al. eds. *South African Animal Life: Results of the Lund University Expedition in 1950–51*. Stockholm: Swedish Natural Science Research Council 13: 234–283.
- KERTESZ, C. 1909. *Catalogus dipterorum hucusque descriptorum*. IV. *Oncodidae, Nemestrinidae, Mydidae, Apioceridae, Asilidae*. Budapestini: Museum Nationale Hungaricum p. 348.
- LEHR, P. A. 1988. Family Asilidae. In: Soós, Á. & Papp, L. eds. *Catalogue of Palaearctic Diptera*. Volume 5. Amsterdam: Elsevier pp. 197–326.
- LINDNER, E. 1961. Afrikanische Asilidae (Dipt.) (Ergebnisse der Forschungsreise Lindner 1958/59 – Nr. 8). *Stuttgarter Beiträge zur Naturkunde* 61: 1–13.

- LOEW, H. 1858. Bidrag till kannedomen om Afrikas Diptera. *Kungliga Vetenskaps-Akademiens Forhandlingar* 14(1857): 337–383.
- . 1860. Die Dipteren-Fauna Südafrika's. Erste Abtheilung. *Abhandlungen des Naturwissenschaftlichen Vereins für Sachsen und Thüringen in Halle* 2 (1858–1861): 57–402. Tables 1+2.
- LOND, J. G. H. 1985. Afrotropical Asilidae (Diptera) 12. The genus *Neolophonotus* Engel, 1925. Part 1. The *chionthrix*, *squamosus* and *angastibarbis* species-groups (Asilinae: Asilini). *Annals of the Natal Museum* 27(1): 39–114.
- . 1989. Afrotropical Asilidae (Diptera) 17. The genus *Damalis* Fabricius, 1805 in subsaharan Africa (Trigonimiminae). *Annals of the Natal Museum* 30: 53–145.
- . 1990. Afrotropical Asilidae (Diptera) 20. The genus *Pycnomerinx* Hull, 1962 (Stenopogoninae). *Annals of the Natal Museum* 31: 19–32.
- . 1992a. Revision of three small Afrotropical asilid genera, *Empodiodes* Oldroyd, *Hynirhynchus* Lindner and *Lycostomyia* Oldroyd (Diptera: Asilidae: Stenopogoninae). *Journal of African Zoology* 105: 55–80.
- . 1992b. *Bana*, a new genus of bee-mimicking assassin fly from southern Namibia (Diptera: Asilidae: Stenopogoninae). *Cimbebasia* 13 (1991): 91–97.
- MARTIN, C. H. & PAPAVERO, N. 1970. Family Asilidae. In: *A catalogue of the Diptera of the Americas south of the United States*. São Paulo: Museu de Zoologia, Universidade de São Paulo 35b.
- MCAHPINE, J. F. 1981. Morphology and terminology – Adults. In: McAlpine, J. F. et. al. *Manual of Nearctic Diptera*. Volume 1. Hull (Quebec): Agriculture Canada, Research Branch. (Monograph; No. 27) pp. 9–63.
- NAGATOMI, A. 1983. The Oriental *Scylaticus* (Diptera, Asilidae). *Memoirs of the Kagoshima University Research Center for the South Pacific* 3(2): 146–162.
- OLDROYD, H. 1970. Studies of African Asilidae (Diptera) 1. Asilidae of the Congo Basin. *Bulletin of the British Museum (Natural History). Entomology, Supplement* 24(7): 209–334.
- . 1974. An introduction to the Robber Flies (Diptera: Asilidae) of Southern Africa. *Annals of the Natal Museum* 22(1): 1–171.
- . 1975. Family Asilidae. In: Delfinado, M. D. & Hardy, D. E. eds. *A catalog of the Diptera of the Oriental Region. Vol. II. Suborder Brachycera through Division Aschiza, Suborder Cyclorrhapha*. Honolulu: University Press of Hawaii pp. 99–156.
- . 1980. Family Asilidae. In: Crosskey, R. W. ed. *Catalogue of the Diptera of the Afrotropical Region*. London: British Museum (Natural History) pp. 334–373.
- RICARDO, G. 1900. Notes on Diptera from South Africa (Tabanidae and Asilidae). *Annals and Magazine of Natural History* (7)6: 161–178.
- . 1925. New species of Asilidae from South Africa. *Annals and Magazine of Natural History* (9)15: 234–282.
- SCHULTZ, B. R. 1965. *Climate of South Africa. Part 8. General survey*. Pretoria: Weather Bureau, viii + 330p. [publication no.] WB 28.
- THEODOR, O. 1980. *Fauna Palaestina. Insecta II. Diptera: Asilidae*. Jerusalem: The Israel Academy of Sciences and Humanities. 448p.
- WALKER, F. 1849. *List of the specimens of dipterous insects in the collection of the British Museum*. London: British Museum 2: 231–484.
- WIEDEMANN, C. R. W. 1819. Beschreibung neuer Zweiflügler aus Ostindien und Afrika. *Zoologisches Magazin. Kiel* 1(3): 1–39.

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## INDEX TO TAXA INCLUDED IN THIS WORK

Synonyms are given in roman face.

<i>albipilus</i> (Becker, 1922) – Transferred to <i>Connomyia</i> .....	101
<i>albofasciatus</i> Engel, 1932 .....	105
<i>argyropus</i> (Engel, 1932) – Transferred to <i>Connomyia</i> .....	101
<i>barkeri</i> (Bromley, 1947) – Transferred to <i>Connomyia</i> .....	101
<i>braunsi</i> sp. n. ....	107
<i>bromleyi</i> sp. n. ....	109
<i>bunohippus</i> sp. n. ....	112
<i>callimus</i> sp. n. ....	114
<i>campius</i> sp. n. ....	116
<i>ceratitus</i> sp. n. ....	118
<i>chrysotus</i> sp. n. ....	119
<i>Connomyia</i> gen. n. ....	101
<i>costalis</i> (Wiedemann, 1819) .....	121
<i>cuthbertsoni</i> sp. n. ....	126
<i>danus</i> sp. n. ....	127
<i>engeli</i> Bromley, 1947 .....	129
<i>engeli</i> Lindner, 1961 (= <i>lindneri</i> ) .....	101
<i>entrichus</i> sp. n. ....	131
<i>exquisitus</i> (Engel, 1932) – Transferred to <i>Connomyia</i> .....	101
<i>gongrocercus</i> sp. n. ....	133
<i>gymnosternum</i> sp. n. ....	135
<i>hadromedus</i> sp. n. ....	137
<i>iota</i> sp. n. ....	139
<i>irwini</i> sp. n. ....	141
<i>laevinus</i> (Walker, 1849) .....	143
<i>laticinctus</i> Loew, 1858 (= <i>costalis</i> ) .....	121
<i>leoninus</i> (Engel, 1932) – Transferred to <i>Connomyia</i> .....	101
<i>lindneri</i> (Oldroyd, 1980) – Transferred to <i>Connomyia</i> .....	101
<i>loewi</i> sp. n. ....	145
<i>marginatus</i> Engel, 1932 .....	147
<i>melanus</i> sp. n. ....	149
<i>midas</i> sp. n. ....	151
<i>namibiensis</i> sp. n. ....	153
<i>nigrescens</i> Engel, 1932 (= <i>costalis</i> ) .....	121
<i>pardalotus</i> sp. n. ....	155
<i>phaeus</i> sp. n. ....	157
<i>punctatus</i> (Engel, 1932) – Transferred to <i>Connomyia</i> .....	101
<i>quadrifasciatus</i> Engel & Cuthbertson, 1934 .....	158
<i>ricardoe</i> sp. n. ....	161
<i>rufescens</i> Ricardo, 1900 (= <i>costalis</i> ) .....	121
<i>Scylaticus</i> Loew, 1858 .....	100
<i>thecarus</i> sp. n. ....	163
<i>tigrinus</i> sp. n. ....	164
<i>trophus</i> sp. n. ....	166
<i>tyligmus</i> sp. n. ....	168
<i>varipennis</i> (Ricardo, 1925) – Transferred to <i>Connomyia</i> .....	101
<i>whiteheadi</i> sp. n. ....	170
<i>xiphocerus</i> Bromley, 1952 (= <i>costalis</i> ) .....	121
<i>zirconius</i> sp. n. ....	172
<i>zonatus</i> Loew, 1858 .....	173